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Данное пособие предназначено для студентов, обучающихся по специальности «Психология», и содержит материалы по специальности, дополняющие основной курс английского языка. Материалы пособия могут быть использованы как для аудиторной, так и для самостоятельной работы студентов.

Предисловие

Учебное пособие “English For Students of Psychology” предназначено для углубленного изучения английского языка студентами уровня Intermediate психологических факультетов вузов. Необходимость данного пособия вызвана отсутствием систематизированного материала на основе аутентичных текстов по психологии, который был бы интересным и полезным с точки зрения обучения языку, а также отвечал требованиям, предъявляемым студентам по изучению специальности.

Пособие отвечает программным требованиям по курсу «Английский язык для специальных целей», охватывает такие важные для будущих специалистов в этой области темы, как история психологии, методологические основы науки, психология личности, возрастная психология, социальная психология. Целью пособия является развитие у студентов навыков поискового и просмотрового чтения и перевода оригинальных материалов по специальности, накопление лексики, необходимой для чтения и общения на профессиональные темы.

Учебное пособие состоит из 8 разделов (Units), каждый из которых посвящен определенной области психологии и содержит три текста для развития различных навыков коммуникативного чтения, сопровождаемые до- и послетекстовыми заданиями, упражнения на усвоение лексики, словообразование, умение работать с определениями, отработку навыков перевода, а также глоссарий (Glossary) и задания для самоконтроля (Quiz). Каждый из трех текстов сопровождается вопросами, которые необходимо рассматривать как материал для тренировки говорения. Лексические упражнения направлены на закрепление лексики общего плана и основных терминов по психологии. Большое внимание уделяется использованию слов в составе наиболее общеупотребительных словосочетаний и умению употреблять их в собственной речи.

Материалы пособия прошли апробацию на занятиях со студентами и могут быть использованы как для аудиторной, так и для самостоятельной работы студентов.

CONTENTS

UNIT 1

THE FOUNDATIONS OF PSYCHOLOGY

Objectives

After completing this unit, you will be able to

- define psychology;
- state the goals of scientific psychology;
- identify the five classical school of psychologies and their founders;
- name and describe seven important fields of psychology.

Pre-reading tasks

I. Work in groups of three or four:

- give the definition of psychology as a science;
- name famous psychologists you know.

II. Before reading the text practice the following proper names for pronunciation.

Socrates [ˈsɒkrətiːz]

Plato [ˈpleɪtəu]

Aristotle [ˈæristɔtl]

Wilhelm Wundt [ˈwilhelm ˈwuntit]

William James [ˈwɪljəm ˈdʒeimz]

Max Wertheimer [ˈmæks wəˈðaimə(r)]

Kurt Koffka [ˈkəːt ˈ kɔfkə] ˈ

Wolfgang Kohler [ˈwʊlfgæŋ ˈkɔlə(r)]

John B. Watson [ˈdʒɔn ˈwɔtsən]

Sigmund Freud [ˈsigmunt ˈfrɔid]

Josef Breuer [ˈdʒɔzef ˈbrəiə(r)]

While-reading tasks

III. Read the text and answer the questions below.

1.1. Looking at the Word *Psychology:* From Ancient to Modern Meanings

The word **psychology** has had several different meanings from ancient to modern times. Here is its present definition: *Psychology is the science that studies the behavior of organisms.*

Three words in the definition merit special attention: (1) science, (2) behavior, and (3) organisms. Modern psychology is considered a *science* because it bases its conclusions on **data,** information obtained by systematic observations. **Behavior** has three aspects: (1) cognitive processes, (2) emotional states, and (3) actions. **Cognitive processes** refer to what an individual thinks. **Emotional states** refer to what an individual feels. **Actions** refer to what an individual does.

An organism is any living creature. Consequently, the behavior of dogs, rats, pigeons, and monkeys can be legitimately included in the study of psychology. Such organisms have indeed been subjects in psychology experiments. However, traditionally the principal focus of psychology has been humans. When animals are used in experiments, the implicit goal is often to explore how such basic processes as learning and motivation, as studied in animals, can cast a light on our understanding of human behavior.

Although you now know the modern definition of psychology, it is important to realize that the word *psychology* has its roots in ancient meanings associated with philosophy. The Greek word **psyche** means soul. Consequently, to philosophers living 400 to 300 B.C., psychology was the "*study of the soul*." This was the meaning given by Socrates, Plato, and Aristotle. In view of the fact that these thinkers, particularly Socrates and Plato, did not believe that animals have souls, it becomes evident why for many centuries psychology's main attention has been given to human beings. The ancient philosophers asserted that the soul is the seat of consciousness. It is consciousness that makes mental life possible. This is why

psychology is often thought of as the science of the mind. Indeed, this meaning is the one given to it by William James, the dean of American psychologists. Working at Harvard a little more than one hundred years ago, James defined psychology as "the science of mental life." He believed that the purpose of psychology should be to investigate such mental processes as thinking, memory, and perception.

Although psychology no longer is thought of as the study of the soul, this original meaning colors our present-day approach, with its emphasis on human behavior and the importance of cognition. Contemporary scientific psychology has four explicit goals: describe, explain, predict, and control behavior
(*adopted from www.rawanonline.com/Psychology-A-Self-Teaching-Guide-English).*

1. What is the subject of psychology?
2. Why is *psychology* considered a science?
3. What is the immediate goal of *psychology*?
4. What is the etymology of the word *psychology*?
5. How did the ancient philosophers treat *psychology*?
6. What is the contemporary approach to *psychology*?

1.2. The Classical Schools of Psychology: Five Great Thinkers and Their Ideas

I. You are going to read the text about classical schools of psychology. Five paragraphs have been removed from the text. Choose from the paragraphs A-F the one which fits each gap (1-5). There is one extra paragraph which you don't need to use.

It has been said that psychology has a long past and a short history. This statement should be taken to mean that although psychology has its roots in philosophy, as a scientific discipline psychology is only a little over 120 years old. As noted earlier, the roots of psychology can be easily traced back about 2,400 years to ancient Greek philosophers. However, the beginning of scientific psychology is

usually associated with the date 1879, the year that a German scientist named Wilhelm Wundt founded the first psychological laboratory at the University of Leipzig in Germany. Modern psychology arose in the context of what are known as **schools of psychology.**

From a historical perspective, the first school of psychology to be established was **structuralism.** Its founding personality was Wilhelm Wundt (1832–1920). He became interested in studying not so much the physiology of the sense organs such as the eyes and ears, but in how simple sensations associated with the sense organs combined to form what we call human consciousness.

1.	

First, there is *hue,* or color. Second, there is *brightness.* Third, there is *saturation.* This refers to the "richness" or "fullness" of a color.

No matter what visual stimulus Wundt's subjects looked at, there were no other kinds of sensations experienced than the three identified above. Consequently, Wundt concluded that all visual experiences are structured out of these same three types of elemental experiences. Similar statements can be made about the other senses such as hearing, taste, and touch. According to Wundt, the primary purpose of psychology is to study the structure of consciousness. By the structure of consciousness, Wundt meant the relationship of a group of sensations, a relationship that produces the complex experiences we think of as our conscious mental life. This approach to psychology has been called *mental chemistry.*

William James (1842–1910), teaching at Harvard in the 1870s, was following Wundt's research with interest. James had an interest not only in psychology, but also in physiology and eventually in philosophy. James founded a psychological laboratory at Harvard; he also authored *The Principles of Psychology,* the first psychology textbook published in the United States. The book was published in 1890, and this can also be taken as the date when the school of psychology known as **functionalism** was born. The principal personality associated with it is James, and he is said to be the dean of American psychologists.

2.	

The German psychologist Max Wertheimer (1880–1943), like James, was also dissatisfied with Wundt's structuralism. Wertheimer believed that Wundt's emphasis on the importance of simple sensations as the building blocks of perceptions was misguided.

The general pattern that induces a complex perception is described with the German word **Gestalt.** Gestalt is usually translated as a "pattern," a "configuration," or an "organized whole." In 1910 Wertheimer published an article setting forth the basic assumptions of Gestalt psychology, and this is usually taken to be the starting date of the school. The article reported a series of experiments using two of his friends, Kurt Koffka and Wolfgang Kohler, as subjects. These two men went on to also become well-known Gestalt psychologists.

3.	

Returning to the United States, **behaviorism** is a fourth classical school of psychology. Its founding personality is John B. Watson (1878–1958). A wave of enthusiasm for Watson's ideas swept him to the presidency of the American Psychological Association (APA) in 1915, and this can be taken as the starting date for behaviorism. Doing research first at the University of Chicago and then at Johns Hopkins University, Watson came to the conclusion that psychology was placing too much emphasis on consciousness. In fact, he asserted that psychology is not a mental science at all. The "mind" is a mushy, difficult-to-define concept. It can't be studied by science because it can't be observed. Only you can know what's going on in your mind. If I say I'm studying your mind, according to Watson, it's only guesswork.

4.	

In order to identify a fifth classical school of psychology, it is necessary to return to the European continent, specifically to Austria; the school is **psychoanalysis.** The father of psychoanalysis is Sigmund Freud (1856–1939). Freud was a medical doctor with a specialty in neurology. His findings and conclusions are based primarily on his work with patients.

Freud's original work was done with a colleague named Josef Breuer (1842–1925). Breuer and Freud collaborated on the book *Studies on Hysteria*. Published in 1895, it is the first book written on psychoanalysis. This can also be taken to be the starting date for the school. After the publication of this first book, Freud went on alone without Breuer; it was a number of years before he worked again with colleagues.

In order to explain chronic emotional suffering, Freud asserted that human beings have an unconscious mental life. This is the principal assumption of psychoanalysis. No other assumption or assertion that it makes is nearly as important. The unconscious mental level is created by a defense mechanism called **repression.**

5.	

Psychoanalysis is not only a school of psychology, but also a method of therapy. Freud believed that by helping a patient explore the contents of the unconscious mental level, he or she could obtain a measure of freedom from emotional suffering. It is important to note that of the five classical schools of psychology, psychoanalysis is the only one that made it an aim to improve the individual's mental health.

(*adopted from "Psychology: A Self-Teaching Guide" Frank J. Bruno*).

A

According to James, psychology should be more interested in how the mind *functions,* or works, than how it is structured. Consequently, James stressed the importance of studying such processes as thinking, memory, and attention. You will recall that James defined psychology as "the science of mental life." In brief, functionalism as a school of psychology asserts that the primary purpose of psychology should be to study the functions of human consciousness, not its structures.

B

The principal aim is to provide a work environment that will facilitate production, reduce accidents, and maintain employee morale. A theme that guides industrial psychology is “the human use of human beings”.

C

Wundt trained assistants in the art of **introspection,** a skill characterized by paying attention not to the whole pattern of a stimulus, but to an elemental part of a stimulus. Wundt’s studies of vision suggested that there are only three basic kinds of visual sensations.

D

Consequently, Watson asserted that the purpose of psychology should be to study *behavior itself,* not the mind or consciousness. Some critics of Watson say that he denied the very existence of consciousness. Others assert Watson was primarily saying that references to the consciousness, or mental life, of a subject don’t provide solid explanations of behavior. In either event, Watson’s view is today thought to be somewhat extreme and is referred to as *radical behaviorism,* a psychology that doesn’t employ consciousness as an important concept.

E

Its aim is to protect the ego against psychological threats, information that will disturb its integrity. The kind of mental information repressed tends to fall into three primary categories: (1) painful childhood memories, (2) forbidden sexual wishes, and (3) forbidden aggressive wishes.

F

In the experiments, Wertheimer demonstrated that the perception of motion can take place if stationary stimuli are presented as a series of events separated by an optimal interval of time. This sounds complicated.

II. Read the full text again and answer the following questions. Then using your answers, give your summary of the text.

1. What was the subject of Wundt’s primary interest?
2. What is introspection?

3. What is the visual experience composed of?
4. What is the primary goal of psychology according to Wundt?
5. What approach can be called mental chemistry?
6. What is functionalism?
7. What studies was Wertheimer involved in?
8. How did the behaviorism appear?
9. Why did Watson refuse to consider psychology as mental science?
10. What are general beliefs of behaviorism?
11. How did the work on psychoanalysis start?
12. What are the fundamental assertions of Freud`s studies?
13. What is repression? What does it serve for?
14. Why does psychoanalysis stand apart from the other four classical schools of psychology?

1.3. Fields of Psychology: Of Laboratories and Clinics

Psychology as a profession expresses itself in different *fields*, or domains of interest. There are a number of fields of psychology, such as clinical, experimental, counseling, developmental, physiological, human factors, and industrial.

Clinical psychology is the field associated with psychotherapy and psychological testing. A clinic is a place where sick people go for help; consequently, clinical psychologists try to help persons with both well-defined mental disorders and serious personal problems. The word **psychotherapy,** in terms of its roots, means a "healing of the self." In practice, a clinical psychologist who employs psychotherapy attempts to work with a troubled person by using various methods and techniques that are designed to help the individual improve his or her mental health. This is done without drugs. An informal description of psychotherapy refers to it as "the talking cure."

A clinical psychologist should not be confused with a psychiatrist. A fully qualified *clinical psychologist* has earned a Ph.D. degree (doctor of philosophy with a specialization in psychology). **Psychiatry** is a medical specialty that gives its attention to mental disorders. A fully qualified *psychiatrist* has earned an M.D.

degree (doctor of medicine). Although psychiatrists can and do practice psychotherapy, they can also prescribe drugs. Clinical psychologists, not being medical doctors, do not prescribe drugs. Clinical psychology is the largest single field of psychology. About 40 percent of psychologists are clinical psychologists.

Experimental psychology is the field associated with research. Experimental psychologists investigate basic behavioral processes such as learning, motivation, perception, memory, and thinking. Subjects may be either animals or human beings. Ivan Pavlov's experiments on conditioned reflexes, associated with the learning process, used dogs as subjects.

The great majority of experimental psychologists are found at the nation's universities. Their duties combine research and teaching. In order to obtain a permanent position and achieve academic promotion, it is necessary for the psychologist to publish the results of experiments in recognized scientific journals. Experimental psychology is not a large field of psychology in terms of numbers of psychologists. Only about 6 percent of psychologists are experimental psychologists.

On the other hand, experimental psychology represents a cutting edge of psychology; it is where much progress is made. The overall concepts and findings in a book such as this one have been made possible primarily by experimental work.

The remaining fields of psychology will be briefly described in terms of what psychologists associated with them do.

A **counseling psychologist** provides advice and guidance, often in a school setting. Sometimes he or she will, like a clinical psychologist, attempt to help individuals with personal problems. However, if the problems involve a mental disorder, the individual will be referred to a clinical psychologist or a psychiatrist.

A **developmental psychologist** is concerned with maturational and learning processes in both children and adults. Although a developmental psychologist is usually thought of as a "child psychologist," it is important to realize that a given developmental psychologist might have a particular interest in changes associated with middle-aged or elderly people.

A **physiological psychologist,** like an experimental psychologist, does research. Subject areas include the structures and functions of the brain, the activity of neurotransmitters (i.e., chemical messengers), and the effect that hormones produced by the endocrine glands have on moods and behavior.

A **human factors psychologist** combines a knowledge of engineering with a knowledge of psychology. For example, he or she may be part of a team that is attempting to redesign an aircraft control panel in an attempt to make it more "user friendly" in order to reduce pilot error associated with misperceptions.

An **industrial psychologist** usually works for a corporation. The principal aim is to provide a work environment that will facilitate production, reduce accidents, and maintain employee morale. A theme that guides industrial psychology is "the human use of human beings".

(*adopted from "Psychology: A Self-Teaching Guide" Frank J. Bruno*).

I. Read the text and answer the questions.

1. What is clinical psychology?
2. Who is a psychiatrist?
3. What does experimental psychology explore?
4. What issues does a counseling psychologist deal with?
5. What is the field of activity of a developmental psychologist?
6. What is a physiological psychologist concerned with?
7. What does a human factors psychologist work with?
8. Who is an industrial psychologist?

II. Do the following tasks on this text:

a) divide the text into logical parts

b) give a title to each part

c) give the contents of each part in 1 or 2 sentences

d) give a summary of the whole text.

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

Cognitive process; emotional state; emotional action; ancient meanings; human being; mental life; scientific discipline; psychological laboratory; historical perspective; physiology of the sense organs; simple / visual sensations; stimulus; starting date of the school; perception of motion; stationary stimuli; important concept; emotional suffering; principal focus of psychology; mental health.

II. Give English equivalents to the following Russian words and expressions from the text.

Область психологии; данные; согласно; психическое растройство; поведение человека; исследование; научный подход; восприятие; следовательно; человеческое сознание; в конце концов; основная цель психологии; значимость изучения; основатель; сложно определяемое понятие; несколько лет; различные методы и техники; квалифицированный психолог.

III. Find the synonyms to the given words.

1.	concept	a) think
2.	suggest	b) primary
3.	principal	c) definite
4.	threat	d) goal
5.	view	e) focus
6.	believe	f) opinion
7.	explore	g) propose
8.	emphasis	h) investigate
9.	purpose	i) danger
10.	explicit	j) idea

IV. Combine the words in column A with those in B to make word combinations and use them in the sentences of your own.

A		B
1.	cast	a) to the conclusion
2.	become	b) forth
3.	place	c) evident
4.	trace	d) a light
5.	pay/give	e) emphasis on
6.	have	f) in the context of
7.	come	g) an interest in
8.	set	h) attention to
9.	take	i) place
10.	arise	j) back

V. Match the terms with their definitions.

1.	behaviorism	a) the process of “looking inward” and examining one's self and one's own actions in order to gain insight.
2.	structuralism	b) the form of psychodynamic therapy which concentrates on bringing forward repressed unconscious thoughts.
3.	gestaltism	c) a theory of mind and brain which studies how people integrate and organize perceptual information into meaningful wholes. The phrase "The whole is greater than the sum of the parts" is often used when explaining this theory.
4.	introspection	d) the school of thought that stresses the need for psychology to be a science based on observable (and only observable) events, not the unconscious or conscious mind.

5. functionalism — e) the school of thought that sought to identify the components of the mind. Scientists believed that the way to learn about the brain and its functions was to break the mind down into its most basic elements.

6. psychoanalysis — f) the school of thought that focused on how the conscious is related to behavior, it focused on observable events as opposed to unobservable events (like what goes on in someone's mind).

VI. Complete the table with the correct form of the word.

Verb	**Noun**	**Noun**	**Adjective**
assert		emotion	
	behaviorism		scientific
realize			mental
believe		psychology	
	exploration		similar
state		experiment	
characterize			physiological
	explanation		personal
combine		confidence	
	present		evident

VII. Use an appropriate word from the box to complete the text.

mental	problems	studies	major
knowledge	include	methods	conduct

Psychology Today

Today, psychologists prefer to use more objective scientific 1) _____ to understand, explain, and predict human behavior. Psychological 2) _____ are highly structured, beginning with a hypothesis that is then empirically tested. Psychology has two 3) _____ areas of focus: academic psychology and applied psychology. Academic psychology focuses on the study of different sub-topics within psychology including personality psychology, social psychology, and developmental psychology.

These psychologists 4) _____ basic research that seeks to expand our theoretical 5) _____, while other researchers conduct applied research that seeks to solve everyday problems. Applied psychology focuses on the use of different psychological principles to solve real world 6) _____. Examples of applied areas of psychology 7) _____ forensic psychology, ergonomics, and industrial-organizational psychology. Many other psychologists work as therapists, helping people overcome 8) _____, behavioral, and emotional disorders.

VIII. Render the text into English.

Что такое психология

На протяжении веков человек является предметом изучения многих и многих поколений ученых. Человечество познает собственную историю, происхождение, биологическую природу, языки и обычаи, и в этом познании психологии принадлежит особое место.

Что же представляет собой психология как наука? Чтобы ответить на этот вопрос, необходимо обратиться к истории психологической науки, к вопросу о том, как на каждом этапе ее развития трансформировалось представление о предмете научного знания в психологии.

Само название предмета в переводе с древнегреческого означает, что психология – наука о душе. Слово «психология» многозначно. В обыденном языке слово «психология» используется для характеристики психологического склада личности, особенностей того или иного человека, группы людей. Другое

значение слова «психология», которое зафиксировано в его этимологии: психология – учение о психике.

Отечественный психолог М.С.Роговин утверждал, что можно выделить три этапа становления психологии как науки. Это этапы донаучной психологии, философской психологии и, наконец, научной психологии.

Донаучная психология – это познание другого человека и самого себя непосредственно в процессах деятельности и взаимного общения людей. Здесь деятельность и знание слиты воедино, обусловленные необходимостью понимать другого человека и предвидеть его поступки.

Философская психология – знание о психике, полученное с помощью умозрительных рассуждений. Знания о психике либо выводятся из общих философских принципов, либо являются результатом размышления по аналогии. По сравнению с донаучной психологией, которая ей предшествует и, особенно на ранних этапах, оказывает на нее большое влияние, для философской психологии характерным является не только поиск некоторого объяснительного принципа для психического, но и стремление установить общие законы, которым душа должна подчиняться так же, как подчиняются им и все природные стихии.

Научная психология возникла относительно недавно – во второй половине XIX века. Обычно ее появление ассоциируется с использованием в психологии экспериментального метода. Некоторые основания для этого, несомненно, есть: «создатель» научной психологии В.Вундт писал, что если определять разработанную им физиологическую психологию по методу, то ее можно охарактеризовать как «экспериментальную». Однако сам Вундт неоднократно подчеркивал, что экспериментальная психология — это далеко не вся психология, а лишь ее часть.

Знание в научной психологии имеет эмпирическую, фактологическую основу. Факты добываются в специально проводимом исследовании, которое использует для этого специальные методы, главными среди которых являются целенаправленное систематическое наблюдение и эксперимент.

IX. Make a brief report on one of the following topics:

a) The Origins of Psychology.

b) The Classical Schools of Psychology.

c) Fields of Psychology.

QUIZ

For questions 1-10 choose the answer a-d which you think fits best according to the texts you studied:

1. The primary subject matter of psychology is
    a. the philosophical concept of the psyche
    b. the behavior of organisms
    c. the conscious mind
    d. the unconscious mind
2. Which one of the following is *not* a goal of scientific psychology?
    a. To abstract behavior
    b. To explain behavior
    c. To predict behavior
    d. To control behavior
3. What characterizes a school of psychology?
    a. Its physiological research
    b. Its stand on Gestalt psychology
    c. Its orientation toward psychoanalysis
    d. Its viewpoint and assumptions
4. Functionalism, associated with William James, is particularly interested in
    a. introspection
    b. the structure of consciousness
    c. how the mind works
    d. developmental psychology
5. Which one of the following is correctly associated with the German word *Gestalt?*
    a. Neuron

b. Organized whole

c. Physiological psychology

d. Repression

6. What school of psychology indicates that it is important to study behavior itself, not the mind or consciousness?

a. Behaviorism

b. Structuralism

c. Psychoanalysis

d. Functionalism

7. The principal assumption of psychoanalysis is that

a. habits determine behavior

b. human beings do not have an unconscious mental life

c. human beings have an unconscious mental life

d. all motives are inborn

8. The cognitive viewpoint stresses the importance of

a. learning

b. thinking

c. motivation

d. biological drives

9. What viewpoint stresses the importance of the activity of the brain and nervous system?

a. The psychodynamic viewpoint

b. The learning viewpoint

c. The humanistic viewpoint

d. The biological viewpoint

10. Psychotherapy is a work activity associated with what field of psychology?

a. Experimental psychology

b. Developmental psychology

c. Clinical psychology

d. Physiological psychology

GLOSSARY

Term	Transcription	Definition
Action	['ækʃ(ə)n]	Something done so as to accomplish a purpose.
Behavior	[bɪ'heɪvjər]	The way a living creature behaves or acts.
Behaviorism	[bɪ ˊheɪvjərɪz(ə)m]	An approach to psychology focusing on behavior, denying any independent significance for mind and assuming that behavior is determined by the environment.
Clinical psychology	['klınık(ə)l saı'kɔlədʒı]	A branch of psychology with purpose of understanding, preventing, and relieving psychologically based distress or dysfunction and to promote subjective well-being and personal development.
Cognitive process	['kɔgnətıv 'prəuses]	Refers to what an individual thinks.
Counseling psychologist	[ˊkaʊns(ə)lɪŋ saı'kɔlədʒıst]	Provides advice and guidance, often in a school setting.
Data	['deıtə]	Pieces of information.
Developmental psychologist	[dɪˌveləp'ment(ə)l saı'kɔlədʒıst]	Is concerned with maturational and learning processes in both children and adults.
Eclecticism	[ek'lektısız(ə)m]	An approach to thought that draws upon multiple theories to gain complementary insights into phenomena.
Emotional state	[ı'məuʃ(ə)n(ə)l steıt]	Refers to what an individual feels.
Experimental psychology	[saı'kɔlədʒı]	The field associated with research.
Functionalism	[fʌŋkʃənə ˊlɪzəm]	A general school of thought that considers psychological phenomena in terms of their

		role in adaptation to the person's environment.
Gestalt	[gə´ʃtɑ:lt]	A collection of physical, biological, psychological or symbolic entities that creates a unified concept, configuration or pattern which is greater than the sum of its parts (of a character, personality, or being).
Human factors psychologist	['hju:mən 'fæktəs saɪ'kɔlədʒɪst]	Combines a knowledge of engineering with a knowledge of psychology.
Hysteria	[hɪs'tɪərɪə]	Behavior exhibiting excessive or uncontrollable emotion, such as fear or panic.
Industrial psychologist	[ɪn'dʌstrɪəl saɪ'kɔlədʒɪst]	Works for a corporation.
Introspection	[ˌɪntrə(u)'spekʃ(ə)n]	A looking inward; specifically, the act or process of self-examination, or inspection of one's own thoughts and feelings; the cognition which the mind has of its own acts and states; self-consciousness; reflection.
Physiological psychologist	[ˌfɪzɪə'lɔdʒɪk(ə)l saɪ'kɔlədʒɪst]	Like an experimental psychologist, does research.
Psyche	['saɪkɪ]	The human soul, mind, or spirit. (chiefly psychology) The human mind as the central force in thought, emotion, and behavior of an individual.
Psychiatry	[saɪ'kaɪətrɪ]	The branch of medicine that subjectively diagnoses, treats, and studies mental illness and behavioural conditions.

Psychoanalysis	[ˌsaɪkəuə'næləsɪs]	A family of psychological theories and methods within the field of psychotherapy that work to find connections among patients' unconscious mental processes.
Psychology	[saɪ'kɔlədʒɪ]	The scientific study of the behavior and mental processes.
Psychotherapy	[ˌsaɪkə'θerəpɪ]	The treatment of people diagnosed with mental and emotional disorders using dialogue and a variety of psychological techniques.
Repression	[rɪ'preʃ(ə)n]	The act of repressing; state of being repressed. The involuntary rejection from consciousness of painful or disagreeable ideas, memories, feelings, or impulses.
Self-actualization	[self ˌ-ækʧuəlaɪ'zeɪʃ(ə)n]	Psychological development that can be achieved when all basic and mental needs are fulfilled.
Structuralism	['strʌkʧ(ə)r(ə)lɪz(ə)m]	A school of thought that focuses on exploring the individual elements of consciousness, how they are organized into more complex experiences, and how these mental phenomena correlate with physical events.

UNIT 2

RESEARCH METHODS IN PSYCHOLOGY: GATHERING DATA

Objectives

After completing this unit, you will be able to

- describe the three main steps in the scientific method;
- identify the principal research methods used by psychology;
- recognize some of the advantages and disadvantages of the various research methods;
- specify key concepts associated with the experimental method.

Pre-reading tasks

I. Before reading the text practice the following proper names for pronunciation.

John Locke [ˈdʒɔn ˈlɔk]

Immanuel Kant [ɪˈmænjəwəl ˈkænt]

Percival Lowell [ˈpəsivəl ˈloʊəl]

Louis Pasteur [ˈluːiː pæsˈtər]

Alfred Landon [ˈælfrəd ˈlændən]

Lewis Terman [ˈluːəs ˈtəːmən]

Fahrenheit [ˈferənˌhaɪt]

II. Discuss the following questions as a group.

1. What is rationalism?
2. How does the John Locke`s position differs from the one Immanuel Kant tends to stick to?
3. What is empiricism?
4. How can the scientific method be defined?
5. What are the three principle stages in the scientific method?
6. What is a decision error?

While-reading tasks

III. Read the text and check your ideas.

2.1. The Scientific Method: Do the Facts Support Your Educated Guess?

In the days of psychology's long philosophical past, the method used to investigate the behavior of human beings was **rationalism.** This is the point of view that great discoveries can be made just by doing a lot of hard thinking. This is still a workable approach in some fields of philosophy, and it has certainly been a workable method in mathematics.

In psychology, however, rationalism alone can lead to contradictory conclusions. At an informal level, rationalism is sometimes called "armchair philosophizing." Using only writing and thinking, the British philosopher John Locke (1632–1704) decided that there are no inborn ideas. Using the same approach as Locke, the German philosopher Immanuel Kant (1724–1804) concluded that the human mind does have some **a priori information,** meaning that there are inborn ideas of a certain kind. So you can see that rationalism alone is an unsatisfactory method for psychology if it claims to be a science.

Contemporary psychology combines rationalism with empiricism. Naturally, thinking is used. However, facts are gathered. **Empiricism** is the point of view that knowledge is acquired by using the senses—by seeing, hearing, touching, and so forth. Empiricism represents what William James called a **tough-minded attitude.** The attitude can be expressed with the words "I'm stubborn. I can be convinced—but you've got to show me."

Today's researchers do their best to gather *data*, information relevant to questions they ask about human behavior. In order to gather data, various methods are used. And these methods are the principal subjects of this chapter.

Before we look at the various individual methods used to gather data, let's take a look at the general approach that inspires all of the methods. This general approach is called the **scientific method.** It is a systematic approach to thinking about an

interesting possibility, gathering data, and reaching a conclusion. There are three main steps in the scientific method. The first step is to form a **hypothesis,** a proposition about a state of affairs in the world. Informally, a hypothesis is an educated guess about the way things are. Let's say that Nora is a teacher. She observes at an informal level that students seem to do better on tests when the room is slightly cool than when it is too warm. She forms this hypothesis: Room temperature has an effect on test performance.

Let's say that she's interested enough to explore the merits of the hypothesis. Nora takes the second step in the scientific method. She ***gathers data***. Probably she will compare student test performance under at least two different conditions. We'll return to this aspect of data gathering when the experimental method is presented later in this chapter.

The third step in the scientific method is to ***accept or reject the hypothesis***. If the data support the hypothesis, Nora will accept it. If the data do not support the hypothesis, Nora will reject it.

Unfortunately, it is possible to make decision errors. Sometimes a hypothesis is accepted that should not be accepted. This is called a **Type I error.** Sometimes a hypothesis is rejected that should be accepted. This is called a **Type II error.** The history of science, unfortunately, provides many examples of both kinds of errors. The astronomer Percival Lowell (1855–1916), based on his observations, concluded that there were canals and probably an advanced civilization on Mars. Later research showed that there are neither canals nor an advanced civilization there. He made a Type I error.

For many years, before the research of the French biologist Louis Pasteur (1822–1895), medical doctors rejected various versions of the hypothesis that some diseases can be caused by germs. They were making a Type II error.

2.2. Psychological Methods to Collect Data

Naturalistic Observation: Looking at behavior without interference requires a researcher to study behavior as it is happening in its own setting. The researcher

should have a “no interference” policy. When people or animals know they are being observed, they may not behave in the same way as when they’re not being observed. Sometimes it is necessary for the researcher to allow for a period of adaptation to his or her presence.

Let’s say that Clayton, an anthropologist, is interested in studying the behavioral patterns of a certain tribe. He lives among its people for a span of time, is accepted by them as a friend, and they grow to trust him. He takes field notes as objectively as possible. Eventually he publishes his findings for other scientists to read. This is the essence of naturalistic observation as a method. (**Anthropology,** like psychology, studies human behavior. Anthropology tends to focus on physical, social, and cultural development.) Naturalistic observation has also been used extensively to study the behavior of animals in their own habitats in the wilderness.

Although psychology occasionally employs naturalistic observation, in practice, research in psychology has tended to favor other methods.

The Clinical Method is a research technique associated primarily with the treatment of individuals with mental or behavioral disorders. It arose within the associated frameworks of psychiatry and clinical psychology. For example, a therapist may treat a troubled person for a span of time. Initially, research may not be the goal. However, at the conclusion of the case, the therapist may decide that the case has many interesting features that make a contribution to our understanding of either the therapy process, behavior, or both. Consequently, the therapist writes up the case, and it is published in a professional journal.

You will recall from chapter 1 that Freud once worked with a colleague named Josef Breuer. One of Breuer’s patients was a young woman identified as Anna O. Anna suffered from various symptoms of hysteria. “The Case of Anna O.” is the first case in psychoanalysis, and it was published together with other case histories in Breuer and Freud’s book *Studies on Hysteria* in 1895. Consequently, it can be said that psychoanalysis has its roots in the clinical method.

The Survey Method: large samples from larger populations. A **survey** attempts to take a large, general look at an aspect of behavior. Examples of topics

include sexual behavior, eating behavior, how people raise children, spending habits, and so forth. A researcher may be interested in studying a population. A **population** is a well-defined group. It need not be large. For example, a home aquarium with ten fish is correctly said to have a population of ten. However, in practice populations are often large (e.g., the population of the United States, the population of California, the population a particular city). Consequently, it is common to conduct the survey taken on a **sample** of the population. The sample should be taken at random from the population. A **random sample** allows the laws of chance to operate and provides an equal opportunity for any member of the population to be included in the sample. Members of the population fill out questionnaires, are interviewed, or are otherwise evaluated. This constitutes the survey.

Among the more famous surveys conducted during the twentieth century are the Kinsey surveys of sexual behavior published about fifty years ago. Conducted by the Indiana University researcher Alfred Kinsey, the surveys, first of males and then of females, provided valuable information concerning sexual behavior. These studies gave a great impetus to the survey method as a way of studying behavior.

A serious drawback of the survey method is the problem of bias in the sample. In 1936 Alfred ("Alf") Landon, the Republican governor of Kansas, ran for president against Franklin Delano Roosevelt, the incumbent. It was widely expected that Landon would win because a telephone poll conducted by a magazine called *The Liberty Digest* predicted Landon's victory. Although the survey method used by the poll took names at random from the phone book, it appears that during the Great Depression, with the nation plagued by 30 percent unemployment, more Republicans than Democrats had telephones. Consequently, the survey made an incorrect prediction.

The difficulty associated with biased sampling from a population of interest is a general problem, one that is not limited to surveys. Most research is conducted on samples, not populations. A researcher, no matter what research method he or she employs, needs to assess the quality of the sample obtained.

The Testing Method explores human behavior by using psychological tests of attributes such as intelligence, personality, and creativity. These tests are often of the paper-and-pencil variety, and the subject completes the test following a set of instructions. In some cases the test is given in interview form on a one-to-one basis by an examiner. Individual intelligence tests are often administered in this manner.

An example of the testing method is provided by the research of Lewis Terman (1877–1956) on gifted children. Using the Stanford-Binet Intelligence Scale as a research tool, Terman studied subjects with very high intelligence quotient (IQ) scores from childhood to late adulthood. (Associates continued the study after Terman's death.) The research supported the hypothesis that high intelligence is desirable. On the whole, gifted children had better health and lower divorce rates than most people.

Two problems associated with psychological testing are **validity** and **reliability.** In order for a psychological test to be useful it needs to be both valid and reliable. A *valid* test measures what it is supposed to measure. If a test that is given to measure the intelligence of subjects instead actually measures the individual's motivation to take the test, the test is invalid.

A *reliable* test gives stable, repeatable results. If a subject is tested twice with the same instrument within a few days, the two scores obtained should be very close to each other. One of the functions of the next method to be identified, the **correlational method,** is to establish both the validity and reliability of psychological tests.

The Correlational Method: When X is associated with Y**.** The word *correlation* refers to the relationship between two variables. These are usually designated as X and Y on a graph. If scores on one variable can be used to predict scores on the second variable, the variables are said to *covary.* Let's say that X stands for shoe size on the right foot. Y stands for shoe size on the left foot. If the both feet are measured on one hundred subjects, it is obvious that a measurement on the right foot will predict, with some variations, a measurement on the left foot (and vice versa). This example also illustrates that a correlation does not necessarily provide a

basis to conclude that causation is present. The size of the right foot does not cause the size of left foot. The sizes covary because they both probably have the same genetic cause in common; they don't cause each other.

In the above example, a **positive correlation** is said to exist. This means that increases in variable X suggest increases in variable Y. On the other hand, if increases in variable X were to suggest decreases in variable Y, a **negative correlation** would be said to exist. Of course, in some cases there is no relationship. Then a **zero correlation** is said to exist.

(*adopted from www.rawanonline.com/Psychology-A-Self-Teaching-Guide-English).*

I. Read the text and answer the questions.

1. What is the principal statement of naturalistic observation?
2. What sciences is naturalistic observation commonly used in?
3. What is the basic idea of the clinical method?
4. What does a survey aim at?
5. How is a survey conducted?
6. What are the disadvantages of the survey method?
7. What is the primary goal of a psychological test?
8. What are the most problematic components of the testing method?
9. What is correlation?
10. How can a zero correlation be described?

II. Do the following tasks on this text:

a) divide the text into logical parts

b) give a title to each part

c) give the contents of each part in 1 or 2 sentences

d) give a summary of the whole text.

2.3. The Experimental Method: A Tool with Great Power

I. Read the text and decide whether the following statements are true or false.

1. The experimental method is characterized by a control over dependent and independent variables, the identification of a cause (or causes), and a welldefined measure of behavior.
2. There are three key concepts of the experimental method: the experimental group, the independent variable, and the dependent variable.
3. The experimental group provides a standard of comparison, a set of observations that can be contrasted with the behavior of the control group.
4. The dependent variable is associated with the *effect* of a cause.
5. The purpose of a random process is to cancel out the effects of individual differences in the subjects that may have an effect on the experiment.

Of all of the methods presented, the experimental method is the one that gives a researcher the most confidence when making the decision to accept or reject a hypothesis. The **experimental method** is a research tool characterized by a control over variables, the identification of a cause (or causes), and a welldefined measure of behavior. These aspects of the experimental method give it great power.

Four key concepts will help you understand the experimental method: (1) the control group, (2) the experimental group, (3) the independent variable, and (4) the dependent variable. Definitions will be presented followed by an example incorporating all four concepts into an experiment. The **control group** receives no treatment; it is dealt with in a more or less conventional manner. It provides a standard of comparison, a set of observations that can be contrasted with the behavior of the experimental group.

The **experimental group** receives a novel treatment, a condition (or set of conditions) that is presumed to affect behavior. It is the target group, the one that will perhaps provide original or particularly interesting data.

The **independent variable** is one that is assigned to the subjects by the experimenter. There will be at least two values, or measures, of this variable. It is the variable that is thought of as a *cause* of behavior.

The **dependent variable** is a measure of the behavior of the subjects. In most experiments, this variable can be expressed as a set of scores. The dependent variable is associated with the *effect* of a cause. Scores make it possible to compute statistical measures and make evaluations based on the data.

You will recall that near the beginning of this chapter a teacher named Nora was said to have formed the hypothesis that room temperature has an effect on test performance. Let's say that Nora wants to do an experiment to evaluate this hypothesis.

Nora writes the names of sixty students on a set of cards. The cards are shuffled and then dealt into two groups, Group A and Group B. A coin is flipped. She says in advance that if heads comes up, Group A will be the control group. If tails comes up, Group B will be the control group. Heads comes up, and Group A becomes the control group. By default, Group B is designated the experimental group.

It is important to note that the process by which subjects are assigned to groups is a **random process,** meaning all subjects have an equal chance of being included in either group. The aim of this procedure is to cancel out the effects of individual differences in the subjects that may have an effect on the experiment. Such variables as age, sex, weight, intelligence, and income level are not, for the moment, under study. A practical way to minimize the effects of such variables is to assign subjects randomly to conditions.

The independent variable will be room temperature. Let's say that most of the time Nora's students take tests in a room that is 68 degrees Fahrenheit. The control group will be tested in a room at this temperature.

Up until now Nora has been thinking that a "cool" room will have a positive effect on test performance. The time has come to define "cool" more precisely. An **operational definition** is required, a definition of a variable such as "cool" in terms

of its measurement operations. Nora decides that her operational definition of "cool" will be a temperature of 55 degrees Fahrenheit. The word *cool* is an imprecise, subjective term. On the other hand, 55 degrees Fahrenheit is precise and objective. The experimental group will be tested at this temperature.

Let's say that subjects in both groups are given the same twenty-question multiple-choice test. Scores range from a low of 5 to a high of 20 correct. The mean (i.e., average) score for subjects in the control group is 11. The mean score for subjects in the experimental group is 14. On the surface, it appears that Nora will make the decision to accept her experimental hypothesis. It appears that a cool room does in fact facilitate test performance.

Before a firm decision can be made to accept or reject a hypothesis, a statistical evaluation of the data must be made. A difference between means is sometimes due to chance.

An experiment can, of course, be much more interesting than the one described, and there can be two or more independent variables. However, Nora's experiment was presented because it reveals the essentials of the experimental method.

(*adopted from www.rawanonline.com/Psychology-A-Self-Teaching-Guide-English).*

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

Research method; workable approach; contradictory conclusion; inborn ideas; unsatisfactory method; research tool; contemporary psychology; gathering data; educated guess; decision error; initially; various versions; general look; valuable information; telephone poll; research tool; intelligence quotient; repeatable results; target group; original data; multiple choice test; test performance.

II. Give English equivalents to the following Russian words and expressions from the text.

Ошибаться; приходить к заключению; без вмешательства; подобным образом; учитывать (принимать во внимание); период времени; в конце концов; тяготеть к (иметь склонность к); широко использоваться; поддерживать другие методы; страдать от; хорошо определенная группа; случайная выборка; в целом; сводить к минимуму; средний балл; случайно.

III. Match the verbs on the left with their definitions on the right.

1.	acquire	a) to study a subject thoroughly, especially in order to discover new information;
2.	provide	b) to watch carefully the way something happens or the way someone does something;
3.	research	c) to judge or calculate the quality, importance, amount or value of something;
4.	observe	d) to get something;
5.	attempt	e) to make possible or easier;
6.	evaluate	f) to give someone something that they need;
7.	constitute	g) to try to do something, especially something difficult;
8.	measure	h) state or describe exactly the meaning, nature or the scope of something;
9.	define	i) to form or make something;
10.	facilitate	j) to discover the exact size or amount of something.

IV. Fill in the gaps with the appropriate verb from exercise III.

1. She has spent the last five years _____ her people`s history.
2. The new ramp _____ the entry of wheelchairs.
3. The role of scientists is _____ and describe the world, not to try to control it.

4. The under-18s _____ nearly 25% of the town's population.

5. Your rights and responsibilities _____ in the citizens' charter.

6. It's impossible _____ these results without knowing more about the research methods employed.

7. He _____ to escape through a window.

8. The author _____ no documentary references to support her assertions.

9. This machine _____ your heart rate.

10. He _____ the firm in 1978.

V. Combine the words in column A with those in B to make word combinations. Make up your own sentences using them.

A	B
1. give	a) one`s best
2. take	b) to trust
3. have	c) notes
4. grow	d) a great impetus
5. take	e) out a form / questionnaire
6. make	f) an equal opportunity
7. conduct	g) an effect on
8. provide	h) a look at
9. fill	i) a contribution
10. do	j) the survey

VI. Complete the table with the correct form of the word.

Verb	**Noun**	**Noun**	**Adjective**
Facilitate		validity	
	investigation	genetic	
	education		firm

contribute		hypothesis	
	cause		rational
require		work	
	prediction		civilized
observe		empiricism	
	motivation		extensive
compare		sex	

VII. Use an appropriate word from the box to complete the text.

experience gather fills out data research questionnaire aim focus on random reliability information accurate reflection validity

What is a survey?

A survey is a data collection tool used to 1) _____ information about individuals. Surveys are commonly used in psychology 2) _____ to collect self-report data from study participants. A survey may 3) _____ factual information about individuals, or it might 4) _____ to collect the opinions of the survey takers.

A survey can be administered in a couple of different ways. In one method known as a structured interview, the researcher asks each participant the questions. In the other method known as a 5) _____, the participant 6) _____ the survey on his or her own.

Surveys are generally standardized to ensure that they have 7) _____ and 8) _____. Standardization is also important so that the results can be generalized to the larger population.

Advantages of Using Surveys

- Surveys allow researchers to collect a large amount of 9) _____ in a relatively short period of time.
- Surveys are less expensive than many other data collection techniques.
- Surveys can be created quickly and administered easily.
- Surveys can be used to collect 10) _____ on a wide range of things, including personal facts, attitudes, past behaviors and opinions.

Disadvantages of Using Surveys

- Poor survey construction and administration can undermine otherwise well-designed studies.
- The answer choices provided on a survey may not be an 11) _____ of how the participants truly feels.
- While 12) _____ sampling is generally used to select participants, response rates can bias the results of a survey.

Types of Survey Data Collection

Surveys can be implemented in a number of different ways. Chances are good that you have participated in13) _____ different market research surveys in the past. Some of the most common ways to administer survey include:

- Mail - An example might include an alumni survey distributed via direct mail by your alma mater.
- Telephone - An example of a telephone survey would be a market research call about your experiences with a certain consumer product.
- Online - Online surveys might focus on your 14) _____ with a particular retailer, product or website.
- At home interviews - The U.S. Census is a good example of an at-home interview survey administration.

VIII. Study the text and write down its summary in English.

Методы исследования в психологии

Методы научных исследований — это те приемы и средства, с помощью которых ученые получают достоверные сведения, используемые далее для построения научных теорий и выработки практических рекомендаций.

Сила науки во многом зависит от совершенства методов исследования, от того, насколько они валидны и надежны, как быстро и эффективно данная отрасль знаний способна воспринять и использовать у себя все самое новое, передовое, что появляется в методах других наук. Там, где это удается сделать, обычно наблюдается заметный прорыв вперед в познании мира.

Все сказанное относится и к психологии. Ее явления настолько сложны и своеобразны, настолько труднодоступны для изучения, что на протяжении всей истории этой науки ее успехи непосредственно зависели от совершенства применяемых методов исследования. Со временем в ней оказались интегрированными методы самых разных наук. Это — методы философии и социологии, математики и физики, информатики и кибернетики, физиологии и медицины, биологии и истории, ряда других наук.

Благодаря применению методов естественных и точных наук, психология, начиная со второй половины прошлого века, выделилась в самостоятельную науку и стала активно развиваться.

Наблюдение, опрос, тесты, эксперемент, моделирование являют собой основные методы психологических исследований, которые используются в современной психологии для сбора так называемых первичных данных, т.е. информации, подлежащей дальнейшему уточнению и обработке.

Кроме перечисленных методов, предназначенных для сбора первичной информации, в психологии широко применяются различные способы и приемы обработки этих данных. Для этой цели применяются разнообразные методы математической статистики, без которых невозможно получить достоверную информацию об изучаемых явлениях, а также методы качественного анализа.

IX. Make a presentation on THE RESEARCH METHODS IN PSYCHOLOGY using all necessary vocabulary from the unit and your own knowledge of this theme.

QUIZ

For questions 1-10 choose the answer a-d which you think fits best according to the texts you studied:

1. The point of view that knowledge is acquired by using the senses is called
    a. rationalism
    b. voluntarism
    c. behaviorism
    d. empiricism
2. Which one of the following *is not* a step associated with the scientific method?
    a. Reject all operational definitions
    b. Form a hypothesis
    c. Gather data
    d. Accept or reject the hypothesis
3. Sometimes a hypothesis is rejected that should be accepted. This is called
    a. a Type I error
    b. an alpha error
    c. a Type II error
    d. an intrinsic error
4. Naturalistic observation requires a researcher to study behavior
    a. in animals only
    b. as it is happening in its own setting
    c. using two independent variables
    d. by making sure the subjects know they are being observed
5. The behavior of Anna O. was studied with the assistance of what method?
    a. The clinical method
    b. Naturalistic observation

c. The experimental method

d. The correlational method

6. A population is

a. a very large sample

b. defined by its bias

c. a subset of a sample

d. a well-defined group

7. The research of Lewis Terman on gifted children is an example of

a. the experimental method

b. the clinical method

c. the testing method

d. the validity method

8. The size of the right foot can usually be used to predict the size of the left foot. This is an example of a

a. zero correlation

b. negative correlation

c. positive correlation

d. lack of covariance

9. In an experiment, the control group

a. receives no treatment

b. receives a novel treatment

c. is expected to provide particularly interesting data

d. is the error variance group

10. The variable that is assigned to the subjects by the experimenter is called

a. the dependent variable

b. the independent variable

c. the organismic variable

d. the congruent variable

GLOSSARY

Term	Transcription	Definition
Anthropology	[ˌæn(t)θrə'pɔlədʒɪ]	The holistic scientific and social study of humanity, mainly using ethnography as its method.
Clinical method	['klınık(ə)l 'meθəd]	A research technique associated primarily with the treatment of individuals with mental or behavioral disorders. It arose within the associated frameworks of psychiatry and clinical psychology.
Control group	[kən'trəul gruːp]	The group of test subjects left untreated or unexposed to some procedure and then compared with treated subjects in order to validate the results of the test.
Dependent variable	[dɪ'pendənt 'vɛərɪəbl]	(sciences) An outcome measured to see the effectiveness of the treatment.
Empiricism	[ɪm'pɪrɪsɪz(ə)m]	A theory of knowledge that asserts that knowledge comes only or primarily from sensory experience, emphasizes the role of experience and evidence, especially sensory experience, in the formation of ideas, over the notion of innate ideas or traditions.
Experimental group	[ɪkˌsperɪ'ment(ə)l gruːp]	The target group, the one that will perhaps provide original or particularly interesting data.
Experimental method	[ɪkˌsperɪ'ment(ə)l 'meθəd]	A research tool characterized by a control over variables, the identification of a cause (or causes), and a welldefined measure of behavior.

Hypothesis	[haɪ'pɔθəsiːz]	A proposed explanation for a phenomenon.
Independent variable	[ˌɪndɪ'pendənt 'vɛərɪəbl]	Represents the inputs or causes, or is tested to see if it is the cause.
Naturalistic observation	[ˌnæʧ(ə)r(ə)'lɪstɪk ˌɔbzə'veɪʃ(ə)n]	A research tool in which a subject is observed in its natural habitat without any manipulation by the observer.
Operational definition	[ˌɔp(ə)'reɪʃ(ə)n(ə)l ˌdefɪ'nɪʃ(ə)n]	Called functional definition, defines something (e.g. a variable, term, or object) in terms of the specific process or set of validation tests used to determine its presence and quantity.
Random process	['rændəm 'prəuses]	A collection of random variables; this is often used to represent the evolution of some random value, or system, over time.
Random sample	['rændəm 'sɑːmpl]	One chosen by a method involving an unpredictable component. Random sampling can also refer to taking a number of independent observations from the same probability distribution, without involving any real population.
Reliability	[rɪˌlaɪə'bɪlətɪ]	The quality of a measurement indicating the degree to which the measure is consistent, that is, repeated measurements would give the same result.
Scientific method	[ˌsaɪən'tɪfɪk 'meθəd]	A method of discovering knowledge about the natural world based in making falsifiable predictions (hypotheses), testing them empirically, developing theories that match known data from repeatable physical

		experimentation.
Survey method	[ˊsɜ:veɪ ˊmɛθəd]	Attempts to take a large, general look at an aspect of behavior.
Testing method	['testɪŋ ˊmɛθəd]	Explores human behavior by using psychological tests of attributes such as intelligence, personality, and creativity.
Type I error		Rejecting the null hypothesis when the null hypothesis is true.
Type II error		Accepting the null hypothesis when the null hypothesis is false.
Validity	[və'lɪdətɪ]	A quality of a measurement indicating the degree to which the measure reflects the underlying construct, that is, whether it measures what it purports to measure.
Rationalism	['ræʃ(ə)n(ə)lɪz(ə)m]	The theory that the basis of knowledge is reason rather than experience, or divine revelation.

UNIT 3

SENSATION: STUDING THE GATEWAYS OF EXPERIENCE

Objectives

After completing this unit, you will be able to

- differentiate among sensation, perception, and cognition;
- describe key aspects of the visual process;
- explain the trichromatic theory of color perception;
- describe key aspects of the hearing process;
- identify principal features of the processes associated with taste, the skin senses, smell, kinesthesis, and the vestibular sense.

Pre-reading tasks

I. Before reading the text practice the following proper name for pronunciation.

Young-Helmholtz [ˈjəŋ ˈhelmˌhoʊlts]

While-reading tasks

II. Read the text. Nine sentences have been removed from it. Choose from the sentences (A-J), the one which fits each gap (1-9). There is one sentence you don't need to use.

3.1. Vision: Seeing Is Believing

A. Cognition refers to knowing.

B. The rods are located primarily in the periphery.

C. In order to see it is necessary to have a sense organ that can convert light waves into useful neurological information.

D. Sensation refers to the raw data of experience. Seeing a flash of light, hearing a single note sounded on a musical instrument, or feeling the touch of a fingertip, are all examples of simple sensations.

E. The trichromatic theory also accounts for the sensation of colors other than the three primary ones.

F. The intensity of a sound wave is measured with a unit called the decibel (dB).

G. It can even travel through a vacuum—without a medium to carry it.

H. The retina is a photosensitive neurological structure.

I. The second wavelength, 500 nanometers, induces the sensation we call “green.”

J. Third, the sensation of **saturation** indicates that we can see how richly or deeply a color seems to soak into an object.

It is difficult to overestimate the importance of the senses. They are our gateways to experience. Without our senses we would be creatures living in solitary confinement. We wouldn’t know the world “out there”. Psychology considers it important to study the process of sensation, the basic process by which we obtain information about external reality.

Here is a useful way to think about the character of conscious experience. Imagine three ascending steps. The first step is associated with **sensation.**

1.	

The second step is associated with **perception.** Perception refers to organized experience. If a set of notes sounded on a musical instrument takes on a particular form, and you hear a melody, you have attained the level of perception.

The third step is associated with **cognition.**

2.	

Thinking and concept formation are processes associated with cognition. If you perceive a melody and remember the name of the song, you have attained the level of cognition. You know what you’re listening to.

Most people think of vision as the primary sense. We need to see in order to drive, to read, to look at the people we love, and so forth.

In order to appreciate the visual process it is necessary first to give some attention to the stimulus that makes it possible. That stimulus is light. Light consists

of a set of electromagnetic waves. An **electromagnetic wave,** consisting of a system of electrical and magnetic fields, is a unique kind of wave.

3.	

Otherwise, communication with voyagers to the Moon or with distant space probes would not be possible. Radio waves are one kind of electromagnetic wave.

Light is necessary for vision, but it is not sufficient.

4.	

This organ is, of course, the eye. In the front of the eye is the **cornea,** a kind of window that allows light to enter the eye. Because the cornea has a convex shape, it also is somewhat responsible for bending light waves and making them converge on the lens.

The **lens** is used to focus light waves, and it produces an inverted, or upside-down, image on the retina.

5.	

Think of it as a target. The center of the target is called the **fovea,** and it plays a dominant role in visual acuity and color vision. The outer rim of the target, the **periphery,** plays an important part in signal detection and brightness vision. The neurons in the retina are called **photoreceptors** because they are light sensitive. The **optic nerve** conveys the retina's activity pattern to the brain.

The two kinds of photoreceptors are the cones and the rods. They have been given these names because of the shapes of their cell bodies. The **cones** are located primarily in the fovea.

6.	

As already indicated, color vision is associated with the fovea, suggesting that the cones have a lot to do with this particular quality of sensation.

A leading theory of color vision is the **trichromatic theory.** This theory is also known as the Young-Helmholtz theory in honor of the scientists who first introduced it. The trichromatic theory hypothesizes that we have three kinds of cones. These are differentially sensitive to three wavelengths of light: (1) 750 nanometers, (2) 500

nanometers, and (3) 400 nanometers. The first wavelength, 750 nanometers, induces the sensation we call “red.”

7.	

And 400 nanometers induces the sensation we call “violet.” The language in the preceding sentences has been carefully chosen in order to make it clear that the “color” is *not* in the stimulus itself (i.e., a light wave), but is produced by the firing of a certain kind of photoreceptor.

8.	

The sensation of orange, for example, takes place because a wavelength of light such as 650 nanometers will cause the simulataneous firing of some neurons that usually fire at 750 nanometers and some that fire at 500 nanometers.

White light is sensed when all of the wavelengths arrive at the retina in a random or scrambled fashion. This causes the simultaneous firing of all three kinds of cones. It is often pointed out that the trichromatic theory works very well. It is the basis upon which color television sets are constructed.

However, there are flaws in the trichromatic theory. For example, people who are red-green blind, lacking the two kinds of required photoreceptors, would not be predicted to sense yellow—yet they seem to have a normal capacity to sense yellow. As a consequence, other theories of color perception have been proposed. They have not received the level of acceptance of the trichromatic theory; but it is important to recognize that this major theory may explain some, but not all, of what is involved in the physiology of color vision.

There are three basic sensations associated with vision. First, the sensation of **hue** simply indicates, as already described, that we can see a range of colors. Second, the sensation of **brightness** indicates that we can see that objects are white or gray or black. We can also see that they are in low or high illumination.

9.	

II. Answer the following questions.

1. What are the three ascending steps of conscious experience?
2. What does sensation refer to?
3. What is a unique property of an electromagnetic wave?
4. What is the retina?
5. What are the two kinds of photoreceptors in the retina?
6. What is a leading theory of color vision? What does it hypothesize?
7. When is white light sensed according to the trichromatic theory?
8. What are the three basic sensations associated with vision?

3.2. Hearing: The Sound of Music

I. Read the text and formulate the general idea.

II. Make the following statements true or false. Change the sentences so they are true.

1. The frequency of a sound wave is measured with the hertz (Hz).
2. The intensity of a sound wave is measured with the hertz.
3. One decibel is equal to one cycle per second.
4. The greater the decibel level, the louder the sound.
5. The eardrum is also known as the basilar membrane.
6. The retina plays a role in hearing similar to the role that the basilar membrane plays in vision.
7. The auditory nerve conveys the basilar membrane's activity pattern to the brain.
8. There are four basic sensations associated with hearing.
9. Pitch is associated with the magnitude of a sound.
10. Timbre refers to the quality of a tone.

If you enjoy hearing music, you appreciate the importance of the sense of hearing. Also, a moment's reflection helps us to realize that hearing is the primary

way in which we overcome social isolation. It is by talking to each other, a behavior that requires hearing, that we visit with family and friends. If one cannot hear, it is important to learn skills such as lip reading and signing.

The sense of hearing can be better understood by studying the stimulus that makes it possible. This stimulus is the *sound wave.* A sound wave requires a medium such as air or water. Let's give our attention to a sound wave that uses air as its medium. First, there must be a vibrating source in order to get a sound wave going. An example of such a source is a guitar string. Another example is a human vocal cord. The vibrations emanating from the source set up a traveling wave of compressions, alternating with partial vacuums, in the air. The compressions strike the eardrum somewhat like a series of hammer blows. The frequency of a sound wave is measured with a unit called the **hertz (Hz).** One hertz is equal to one cycle per second. The greater the number of cycles per second, the higher the experienced pitch.

The intensity of a sound wave is measured with a unit called the **decibel (dB).** The greater the decibel level, the louder the sound.

In order to experience the sensation of sound, it is necessary to have a functioning ear. These are the principal structures and functions of the ear. The eardrum, already mentioned, is also known as the **tympanic membrane.** Its vibrations induce a series of events. The motion of the tympanic membrane is conveyed to a structure called the **oval window.** The conveyance of the motion is made possible by the motion of three linked bones called the **malleus** ("hammer"), the **incus** ("anvil"), and the **stapes** ("stirrup").

Vibrations of the oval window in turn set up vibrations within a fluid contained in the **cochlea,** a bony structure reminiscent of a snail shell. A nervous system structure within the cochlea called the **basilar membrane** plays a role in hearing similar to the role that the retina plays in vision. The **auditory nerve** conveys the basilar membrane's activity pattern to the brain.

There are three basic sensations associated with hearing. First, **pitch** is the ability to hear sounds ranging from low to high. Second, **loudness** is associated with

the magnitude of a sound. Third, **timbre** refers to the quality of a tone. In general, the quality of a note played on a piano has more timber, or "richness," than a note of the same pitch played on a flute.

3.3. Key Processes of Sensation: Taste, Touch, Smell, Kinesthesis, the Sense of Balance

The stimuli that control much of the sense of taste are various chemical compounds such as those associated with salt, sugar, or lemon juice. The units that make taste possible are clusters of neurons located on the tongue called **taste buds.** The taste buds respond in such a way that they produce four basic taste sensations. These sensations are quite familiar. They are known as *sweet*, *salty*, *bitter*, and *sour*.The four sensations are able to produce many flavors.

Taste buds are gathered in specific areas of the tongue. For example, the taste buds that produce the sensation of sweetness are located near the tip of the tongue. It is estimated that we have about 10,000 taste buds.

It should also be noted that the sense of taste interacts with other senses such as smell, vision, and touch. The aroma of a soup, the look of a steak, and differences in texture on the tongue all change our taste impressions.

It is common to refer to touch as one of the basic senses. It is more accurate, however, to speak of the **skin senses,** basic experiences associated with different kinds of receptor neurons located in the skin. There are four skin senses: (1) light touch, (2) deep touch, (3) temperature, and (4) pain. The sensation of **light touch** can be induced by placing very little pressure on the surface of the skin or by slowly stroking the skin. You are aware that you are being touched even if your eyes are closed. Neurons located near the surface of the skin are the ones that give us the sensation of light touch.

Deep touch can be induced by placing substantial pressure on the surface of the skin. If someone shakes your hand too tightly or grips your arm with force, you will experience deep touch. Deep touch is also known as the sensation of *pressure.*

Neurons located well below the surface of the skin are the ones that give us the sensation of deep touch.

Temperature is induced by variations in the amount of heat being conducted to or away from the skin. When heat is being conducted toward the skin, we usually experience an increase in warmth. When heat is being conducted away from the skin, we usually experience an increase in cold. This is because the skin of your feet makes such good contact with the hard surface that heat is carried away from your body. Two basic kinds of neurons for temperature are "hot" receptors and "cold" receptors.

Pain is a skin sense induced by tissue damage. A hard blow to the body or being cut by a knife will usually cause pain. Be clear that the kind of pain being described here is not the only type of pain. But the kind of pain associated with the skin is called *cutaneous pain.* Neurons in the skin that can detect tissue damage are the ones that give us this particular pain sensation.

You may think to yourself, "Someone in this room is wearing a perfume that I can't stand!" How do you know? You can't see the perfume. You can't hear the perfume. But you, with your sense of smell, *know.*

The sense of smell allows us to detect the presence of some, but not all, airborne chemical substances. The sense of smell is also known as **olfaction.** The receptor organ that makes the sense of smell possible is called the **olfactory epithelium,** and it is located high in the nose. It is to smell what the retina is to vision. Several kinds of neurons differentially sensitive to chemicals in gaseous forms induce the various smell sensations.

If you *can* touch the tip of your nose with your eyes closed, as most people can, you have an intact sense of kinesthesis. **Kinesthesis,** also known as **proprioception,** is the capacity to know the position in space of various parts of your body. (The term *proprioception* is related to the word "property." Your body belongs to you—it's your property.) Close your eyes and lift or lower a single finger. You know where it is at all times. When you walk you can sense the position of your legs even if you're not looking at them. Pianists and dancers rely heavily on kinesthesis.

The receptor neurons for kinesthesis are located in the connective tissue surrounding the body's joints as well as within the joints themselves.

The sense of balance informs you that you are walking in an upright position. What you are sensing is the relationship of your body, and in particular your head, to the Earth's gravitational field. The sense of balance is made possible by receptor neurons located in the **semicircular canals.** Located in the inner ear, the canals are tubular bones filled with fluid. The movement of this fluid stimulates the firing of receptor neurons within the canals, and the information is transmitted to the brain.

The sense of balance is also known as the **vestibular sense.** A **vestibule** is a small antechamber or passageway. This is one way to describe the semicircular canals, important components of the apparatus involved in the sense of balance.
(*adopted from "Psychology: A Self-Teaching Guide" Frank J. Bruno*)

I. Read the text and answer the questions.

1. What are taste buds, located on the tongue?
2. What are the four basic taste sensations?
3. What are the four skin senses?
4. What skin sense can be induced by placing substantial pressure on the surface of the skin?
5. When do we usually experience an increase in cold?
6. What skin sense is induced by tissue damage?
7. How is the sense of smell also known?
8. How is the receptor organ that makes smell possible called?
9. How is kinesthesis also known?
10. What is kinesthesis?
11. How is the sense of balance also known?
12. What makes the sense of balance possible?

II. Make up a plan of the text.

III. Write out the key words of each part.

IV. Write down a summary of the text in English.

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

Experience; to overestimate; so forth; convert light waves; convex shape; to converge; lens; fovea; color vision; target; wavelength; firing; simultaneous; flaw; brightness; hearing; medium; vocal cords; red – green blind; frequency; intensity; motion; cochlea; pitch; basilar membrane; produce flavors; cluster; the surface of the skin; to induce; to conduct; tissue damage; cutaneous pain; to wear a perfume; high in the nose; joint; passageway.

II. Give English equivalents to the following words and expressions from the text.

Ощущение; одиночное заключение; основное чувство; электромагнитные волны; достаточный; неврологический; роговая оболочка глаза; направлять световые волны; перевернутый; сетчатка глаза; острота зрения; конус; чувствительный к свету; в честь ученых; теория трех цветов; оттенок; насыщенность; чтение по губам; преодолевать; барабанная перепонка; измерять; быть равным; передавать; способность слышать (видеть и т.п.); тембр; вкус; расположенный на языке; осязание; вызывать боль; обоняние; обнаруживать присутствие; химические вещества; кинестезия; чувство баланса; полукруглый; передаваться в мозг.

III. Combine the words in column A with those in B to make word combinations and use them in the sentences of your own.

A	B
1. associate	a) on kinesthesis
2. refer	b)attention to the stimulus

3. consist	c) from the source
4. arrive	d) with cognition
5. involve	e) for vision
6. soak	f) at the retina
7. emanate	g) to experience
8. rely	h) of the waves
9. responsible	i) in the physiology
10. give	j) into an object

IV. Match each word or word combination on the left with the relative explanation on the right.

1. sensation	a) the capacity to know the position in space of various parts of your body.
2. saturation	b) a skin sense induced by tissue damage.
3. hertz	c) the sense of smell that allows to detect the presence of some, but not all, airborne chemical substances.
4. pitch	d) clusters of neurons located on the tongue that make taste possible.
5. taste buds	e) a small antechamber or passageway.
6. light touch	f) the raw data of experience.
7. pain	g) the ability to hear sounds ranging from low to high.
8. olfaction	h) a skin sense that can be induced by placing very little pressure on the surface of the skin or by slowly stroking the skin.
9. kinesthesis	i) one of the basic vision sensations which indicates that we can see how richly or deeply a color seems to soak into an object.
10. vestibule	j) a unit the frequency of a sound wave is measured with.

V. Complete the table with the correct form of the word.

Verb	Noun	Noun	Adjective
touch		basis	
	Reference		useful
appreciate		difference	
	Location		vibrating
convert			sensitive
accept		communication	
	Description		proper
press		intensity	
	Firing		functional
	Conveyance	salt	

VI. Fill in the gaps with the correct words from the box.

balance	perception	tone	enter	salty	toward	touch
knowing	vacuum	cold	sound wave	airborne	sour	

1. _____ refers to organized experience.
2. Cognition refers to _____.
3. An electromagnetic wave is a unique kind of wave that can even travel through a _____ —without a medium to carry it.
4. The cornea is a kind of window that allows light to _____ the eye.
5. The sense of hearing can be better understood by studying the stimulus that makes it possible. This stimulus is the _____.
6. Timbre refers to the quality of a _____.

7. Four basic taste sensations, known as sweet, _____, bitter, and _____ are able to produce many flavors.

8. When heat is being conducted _____ the skin, we usually experience an increase in warmth.

9. When heat is being conducted away from the skin, we usually experience an increase in _____.

10. The sense of smell allows us to detect the presence of some, but not all, _____ chemical substances.

11. If you can _____ the tip of your nose with your eyes closed, as most people can, you have an intact sense of kinesthesis.

12. The sense of _____ informs you that you are walking in an upright position.

VII. Summarize the key ideas of the text in English.

Основным источником наших знаний о внешнем мире и о собственном теле являются ощущения. Они составляют основные каналы, по которым информация о явлениях внешнего мира и состоянии организма доходит до мозга, давая человеку возможность ориентироваться в окружающей среде и в своем теле. Если бы эти каналы были закрыты и органы чувств не приносили нужной информации, никакая сознательная жизнь не была бы возможной.

Известны факты, говорящие о том, что человек, лишенный постоянного притока информации, впадает в сонное состояние. Такие случаи имеют место, когда человек внезапно лишается зрения, слуха, обоняния и когда осязательные ощущения его ограничиваются каким-либо патологическим процессом.

Ощущения обладают широким спектром модальности: бывают зрительные, слуховые, вибрационные, кожно-осязательные, температурные, болевые, мышечно-суставные, ощущения равновесия и ускорения, обонятельные, вкусовые, общеорганические ощущения. Каждая форма ощущений отражает через единичное общие свойства данной формы и вида

движения материи, например электромагнитные, звуковые колебания, химическое воздействие и т.д.

Как происходит передача информации от рецептора в мозг!

Человек в состоянии ощущать и воспринимать объективный мир благодаря особой деятельности мозга. Именно с мозгом связаны все органы чувств. Каждый из этих органов реагирует на определенного рода стимулы; органы зрения — на световое воздействие, органы слуха и осязания — на механическое воздействие, органы вкуса и обоняния — на химическое. Однако сам мозг не в состоянии воспринимать эти виды воздействий. Он «понимает» только электрические сигналы, связанные с нервными импульсами. Для того чтобы мозг отреагировал на раздражитель, в каждой сенсорной модальности сначала должно произойти преобразование соответствующей физической энергии в электрические сигналы, которые затем своими путями следуют в мозг. Этот процесс перевода осуществляют специальные клетки в органах чувств, называемые рецепторами. Зрительные рецепторы, например, расположены тонким слоем на внутренней стороне глаза; в каждом зрительном рецепторе есть химическое вещество, реагирующее на свет, и эта реакция запускает ряд событий, в результате которых возникает нервный импульс. Слуховые рецепторы представляют собой тонкие волосяные клетки, расположенные глубоко в ухе; вибрации воздуха, являющиеся звуковым стимулом, изгибают эти волосяные клетки, в результате чего и возникает нервный импульс. Аналогичные процессы происходят и в других сенсорных модальностях.

Рецептор — это специализированная нервная клетка, или нейрон; будучи возбужденной, она посылает электрический сигнал промежуточным нейронам. Этот сигнал движется, пока не достигнет своей рецептивной зоны в коре головного мозга, причем у каждой сенсорной модальности имеется своя рецептивная зона. Где-то в мозге — может, в рецептивной зоне коры, а может, в каком-то другом участке коры — электрический сигнал вызывает осознанное переживание ощущения. Так, когда мы ощущаем прикосновение, это ощущение «происходит» у нас в мозге, а не на коже. При этом электрические

импульсы, которые прямо опосредуют ощущение касания, сами были вызваны электрическими импульсами, возникшими в рецепторах осязания, которые расположены в коже. Сходным образом ощущение горького вкуса рождается не в языке, а в мозге; но мозговые импульсы, опосредующие ощущение вкуса, сами были вызваны электрическими импульсами вкусовых рецепторов языка.

Благодаря ощущениям человек может воспринимать сигналы и отражать свойства и признаки вещей внешнего мира и состояний организма. Ощущения связывают человека с внешним миром, являясь одним из главных, источником познания и важным условием его психического развития.

VIII. Make a brief report on one of the following topics:

a) The key aspects of the visual process.

b) The sense of hearing.

c) The Key Processes of Sensation.

QUIZ

For questions 1-10 choose the answer a-d which you think fits best according to the texts you studied:

1. Sensation refers to
    a. organized experience
    b. thinking and concept formation
    c. meaningful knowledge
    d. the raw data of experience
2. The waves to which we give the name “light” are a narrow band of
    a. the electromagnetic spectrum
    b. radio waves
    c. ultra-violet waves
    d. infra-red waves
3. The trichromatic theory proposes that we have
    a. three kinds of optic nerves

b. a triad of lenses

c. three kinds of cones

d. three kinds of rods

4. A sound wave

a. can travel through outer space

b. cannot travel through water

c. has frequency, but not amplitude

d. requires a medium such as air or water

5. What structure in the ear is similar in function to the eye's retina?

a. The basilar membrane

b. The auditory nerve

c. The tympanic membrane

d. The oval window

6. The four basic taste sensations are

a. sweet, salty, bitter, and hot

b. sweet, bitter, burned, and salty

c. sour, acid, sweet, and mint

d. sweet, salty, bitter, and sour

7. One of the following is *not* a skin sense.

a. Light touch

b. Incongruent pleasure

c. Deep touch

d. Temperature

8. The receptor organ that makes smell possible is called the

a. vestibular membrane

b. olfactory epithelium

c. odor membrane

d. synaptic epithelium

9. What sense makes it possible for you to touch the tip of your nose with your eyes closed?

a. The vestibular sense

b. The cardiovascular sense

c. Kinesthesis

d. Synthesis

10. The vestibular sense lets you know when

a. a signal is present

b. a figure is perceived against a ground

c. you are walking upright

d. you have a subliminal perception

GLOSSARY

Term	Transcription	Definition
Auditory nerve	['ɔːdɪt(ə)rɪ nɜːv]	Nerve responsible for sending sound messages to the brain.
Basilar membrane	[ˈbasɪlə 'membreɪn]	Within the cochlea of the inner ear is a stiff structural element that separates two liquid-filled tubes that run along the coil of the cochlea, the scala media and the scala tympani.
Brightness	['braɪtnəs]	The perception elicited by the luminance of a visual target. This is a subjective attribute/property of an object being observed.
Cochlea	['kɔklɪə]	The auditory portion of the inner ear. It is a spiral-shaped cavity in the bony labyrinth, making 2.5 turns around its axis, the modiolus.
Cognition	[kɔg'nɪʃ(ə)n]	A group of mental processes that includes attention, memory, producing and

		understanding language, learning, reasoning, problem solving, and decision making.
Cornea	['kɔːnɪə]	The transparent front part of the eye that covers the iris, pupil, and anterior chamber.
Decibel (dB)	['desɪbel]	A logarithmic unit that indicates the ratio of a physical quantity (usually power or intensity) relative to a specified or implied reference level.
Electromagnetic wave	[ɪˌlektrə(u)mæg'netɪk weɪv]	Wave of radiation from the electromagnetic spectrum. *Electromagnetic radiation (EM radiation or EMR)* is a form of energy emitted and absorbed by charged particles, which exhibits wave-like behavior as it travels through space.
Fovea	[ˊfəʊvɪə]	A part of the eye, located in the center of the macula region of the retina. The fovea is responsible for sharp central vision (also called foveal vision), which is necessary in humans for reading, watching, driving, and any activity where visual detail is of primary importance.
Hearing	['hɪərɪŋ]	The sense by which sound is perceived.
Hertz (Hz)	[hɜːts]	The SI unit of frequency defined as the number of cycles per second of a periodic phenomenon.
Hue	[hjuː]	One of the main properties of a color, defined technically as "the degree to which a stimulus can be described as similar to or different from stimuli that are described as red, green,

		blue, and yellow".
Incus	['ɪŋkəs]	The anvil-shaped small bone or ossicle in the middle ear, which transmits sound vibrations from the malleus to the stapes.
Kinesthesia	[kɪnɪsˈθiːzɪə]	Sense of movement.
Lens	[lenz]	Part of the eye which focuses light rays to form an image on the retina.
Loudness	[laudnəs]	The characteristic of a sound that is primarily a psychological correlate of physical strength (amplitude). More formally, it is defined as "that attribute of auditory sensation in terms of which sounds can be ordered on a scale extending from quiet to loud."
Malleus	['mælɪəs]	A hammer-shaped small bone or ossicle of the middle ear which connects with the incus and is attached to the inner surface of the eardrum.
Olfaction	[ɒlˈfakʃ(ə)n]	The sense of smell. This sense is mediated by specialized sensory cells of the nasal cavity of vertebrates, and, by analogy, sensory cells of the antennae of invertebrates.
Olfactory epithelium	[ɒlˈfakʃ(ə)n ˌepɪ'θiːlɪəm]	A specialized epithelial tissue inside the nasal cavity that is involved in smell.
Optic nerve	['ɔptɪk nɜːv]	Nerve which transmits visual information from the retina to the brain.
Oval window	['əuv(ə)l 'wɪndəu]	A membrane-covered opening which leads from the middle ear to the vestibule of the inner ear.
Pain	[peɪn]	An unpleasant sensory and emotional

		experience associated with actual or potential tissue damage, or described in terms of such damage.
Perception	[pə'sepʃ(ə)n]	The organization, identification and interpretation of sensory information in order to represent and understand the environment.
Periphery	[pə'rɪf(ə)rɪ]	Plays an important part in signal detection and brightness vision.
Photoreceptor	[ˈfəʊtəʊrɪˌsɛptə]	Receptor which perceives light stimulus.
Pitch	[pɪʧ]	Relative highness or lowness of a sound; the property of sound that varies with variation in the frequency of vibration.
Retina	['retɪnə]	The thin layer of cells at the back of the eyeball where light is converted into neural signals sent to the brain.
Rod	[rɔd]	Visual receptor cell sensitive to dim light.
Saturation	[ˌsæʧ(ə)'reɪʃ(ə)n]	One of the basic sensations which indicates that we can see how richly or deeply a color seems to soak into an object.
Semicircular canal	[ˌsemɪ'sɜːkjələ kə'næl]	Each of the three fluid-filled sections of the ear canal that assist in maintaining balance and hearing.
Sensation	[sen'seɪʃ(ə)n]	A stage of processing of the senses in human and animal systems, such as vision, auditory, vestibular, and pain senses.
Skin senses	[skɪn sensiz]	Basic experiences associated with different kinds of receptor neurons located in the skin.
Smell	[smel]	Perceive an odor through the nose by means of the sense of smell.

Stapes	[ˈsteɪpiːz]	The stirrup-shaped ossicle that transmits sound from the incus to the cochlea.
Taste	[teɪst]	One of the traditional five senses. It refers to the ability to detect the flavor of substances such as food, certain minerals, poisons, etc.
Taste buds	[teɪst bʌds]	Small receptors on the tongue which perceive taste.
Temperature	['temp(ə)rəʧə]	The somatic sensation of cold or heat.
Timbre	['tæmbrə]	The quality of a sound independent of its pitch and volume.
Touch	[tʌʧ]	Sense of perception by physical contact.
Trichromatic theory	[ˌtraɪkrə'mætɪk 'θɪərɪ]	Trichromacy or trichromaticism is the condition of possessing three independent channels for conveying color information, derived from the three different cone types.
Tympanic membrane	[tɪm'pænɪk 'membreɪn]	Ear drum, membrane in the ear that vibrates in reaction to sound.
Vestibular sense	[vɛˈstɪbjʊlə sens]	A sensory system located in structures of the inner ear that registers the orientation of the head.
Vestibule	['vestɪbjuːl]	Any of a number of body cavities, serving as or resembling an entrance to another bodily space.
Vision	['vɪʒ(ə)n]	The sense or ability of sight.

UNIT 4

PERCEPTION: WHY DO THINGS LOOK THE WAY THEY DO?

Objectives

After completing this unit, you will be able to

- state the Gestalt laws of perception;
- describe the role that learning plays in perception;
- explain what illusions teach us about perception;
- explain how both binocular vision and monocular cues play a role in depth perception;
- discuss some of issues associated with the topic of extrasensory perception.

Pre-reading tasks

I. Practice the following for pronunciation:

Kurt Koffka [ˈkəːt ˈ kɔfkə]

Max Wertheimer [ˈmæks wəˈðaimə(r)]

Donald O. Hebb [ˈdɔnəld oʊˈheb]

II. Discuss the following questions as a group.

1. What is perception?
2. What distinction in the study of perception was made by Koffka?
3. What organizing tendency refers to the nearness of the elements that make up a perception?
4. What organizing tendency refers to characteristics that elements of perception have in common?
5. How is the tendency to fill in gaps in information and make a perceptual object into a complete whole called?
6. When does common fate exist?

While-reading

III. Read the text and do the tasks below.

4.1. The Gestalt Laws: Is Our Perception of the World Due to Inborn Organizing Tendencies?

Kurt Koffka (1886–1941), one of the founders of Gestalt psychology, said that the great question of perception is: "Why do things look the way they do?"

At first the question seems almost silly. We are tempted to answer, "Because things are they way they are." It would seem that tall things look tall because they *are* tall. And distant things look distant because they *are* distant. On the other hand, why does the Moon look larger just above the horizon than it does when it's overhead? It hasn't gotten any bigger, or any closer.

Koffka's question does not have to be limited to the sense of vision. The same question could be adapted to the other senses. Sensation is the raw data of experience. **Perception,** on the other hand, is the organization and the meaning we give to primitive information. It can be said with some that we use sensory information to create a psychological world.

Returning to Koffka, he said that there is a distinction between the geographical

world and the psychological world. The **geographical world** is the actual world "out there," the world as defined and described by physics. The **psychological world** is the world "in here," the world as experienced by the subject. Although common sense usually says it's the so-called "real world" or physical world that determines our behavior, it can be argued that common sense isn't sufficiently analytical. Reflection suggests that we behave in terms of what we perceive to be true, not necessarily in terms of what is actually true.

Max Wertheimer, the father of Gestalt psychology, proposed a set of supplemental inborn organizing tendencies, or **Gestalt laws.** (The Gestalt laws are also traditionally called **innate tendencies,** which simply means "inborn." The words *innate* and *inborn* can be used interchangeably.)

First, **proximity** refers to the nearness of the elements that make up a perception. If four ink dots on a piece of paper are arranged in the form of a square, this Gestalt (i.e., organized whole) will, of course, be perceived to be a square.

Second, **similarity** refers to characteristics that elements have in common. Let's say that the word *airplane* is printed on a page in a single color of ink. Imagine that the same word is printed on a different page with its letters randomly appearing in black, red, and green. The second word is more difficult to perceive as a whole word, as a perceptual object, than is the first word. Similarity of the elements helps to make a perceptual object a coherent whole.

Third, **closure** is the tendency to fill in gaps in information and make a perceptual object into a complete whole. Imagine that an arc of 340 degrees is drawn on a piece of paper. Although at a sensory level this is an arc, you will tend to perceive it as a broken circle, as a coherent whole with a defect. (An unbroken circle has 360 degrees.) A newspaper photograph made up of nothing but disconnected dots is nonetheless perceived as a picture of people or things. Again, the principle of closure is at work.

Fourth, **common fate** exists when all of the elements of a perceptual object move or act together. (Their simultaneous activity is, in a sense, a "common fate.") When this happens, the perceptual object is quickly organized into a figure and is easily discriminated from a ground. For example, a polar bear with white fur surrounded by snow is more easily seen as a bear when it is moving than when it is stationary.

Other organizing tendencies exist; however, the ones presented make clear the role that they appear to play in perception.

IV. Make up a plan of the text.

V. Write out the key words of each part.

VI. Write down a summary of the text in English.

VII. Give a written translation of the text in Russian.

I. Read texts 4.2 and 4.3 with a dictionary if necessary.

4.2. Learned Aspects of Perception.
Illusions: What Do They Teach Us about Perception?

The Gestalt laws may play a primary role, but learning certainly plays a secondary, and important, role.

Let's say that a simple melody is played on the piano in the presence of Tina, a two-week-old infant. Assume that Tina has had little or no experience with hearing music. Does she now actually perceive a melody in somewhat the same way that you perceive it? Or does she just hear a lot of disconnected tones? You can put yourself in Tina's position to some extent by imagining yourself listening to the music of another country, one that uses a tonal scale and patterns of harmony that are unfamiliar to you. When you first hear a song, it may seem to have little or no pattern. However, hearing it two or three times will help you to perceive the pattern. To the extent that you, or Tina, can hear any pattern at all on the first presentation, it is probably due to the Gestalt laws. The sharpening of perception on repeated presentations can be attributed to learning.

One way to explain this sharpening of perception is to suggest that patterns of stimulation set off chain reactions in neurons located in the association areas of the brain's cortex. Each time a given stimulus is presented, the same set of neurons fire. The research of the Canadian psychologist Donald O. Hebb suggests that repeated firings form a **cell assembly,** a stable group of neurons that are used over and over by the brain to create a representation of the external pattern. A pattern can, of course, be quite complex. If this is so, a given cell assembly may represent only a portion of a pattern. Hebb called a set of cell assemblies grouped together to form a larger pattern a **phase sequence.**

The existence of cell assemblies helps account for a memory of patterns and perceptual objects. When you hear a melody or recognize something you have seen before, it is quite possibly because an established cell assembly is firing.

Learning also plays a role in perception because we are conscious beings who attach labels to perceptual objects. This brings us to the **cognitive hypothesis** in perception, the hypothesis that we not only perceive, but know what we are perceiving. **Cognitive learning,** learning in which consciousness plays an important role, is an important aspect of the perceptual process.

An **illusion** is a false perception, a perception that does not fit an objective description of a stimulus situation. An illusion is usually associated with a particular sense. Consequently, there are optical illusions, auditory illusions, and so forth. Illusions tend to be remarkably stable. They affect most normal observers in the same way. For example, for almost all of us the Moon is perceived to be larger when low and near the horizon than when it is high and overhead.

It is important to distinguish the concept of an illusion from a delusion and a hallucination. A **delusion** is a false belief. If Ray, a schizophrenic mental patient, believes that he has an eye with X-ray vision on the back of his head, this is a delusion. A **hallucination** is a perception created by the individual. It has no relationship to reality at all. If Ray sees and hears an invisible companion that nobody else can see or hear, this is a hallucination. Illusions are thought to be normal and experienced by most of us. Delusions and hallucinations are thought to be abnormal and experienced in an idiosyncratic fashion.

4.3. Depth Perception: Living in a Three-dimensional World. Extrasensory Perception: Is It Real?

One of the fascinating questions of perception is this one:Why do we perceive a world of rounded shapes, of near and far things, of *depth* instead of a flat world with one surface? A second, related question is: How is this accomplished?

Depth perception is made possible by various *cues,* signals or stimuli that provide an observer with information. Depth perception is made possible by cues arising from binocular vision and monocular vision.

Binocular vision is vision with two eyes. The principal cue for depth perception associated with binocular vision is **retinal disparity.** The pupils of the

eyes are about three inches apart. This gives the right eye a somewhat different view of a scene than the one obtained with the left eye. Notice that although you sense two images, you only perceive one. (This is another example of the difference between sensation and perception.) This is sometimes called the **zipper function** of the brain, the capacity of the visual portion of the cortex to integrate two images into a meaningful whole. The whole image, in part because of retinal disparity, appears to be three-dimensional.

Monocular vision is vision with one eye. If a person is deprived of binocular vision, then he or she can still perceive depth with the assistance of monocular cues. (Although the loss of the use of an eye *impairs* depth perception, it does not destroy it completely.) **Monocular cues** are available to one eye. These are the kinds of cues that give a landscape painting depth. Although you normally look at such a painting with both eyes open, in this case depth perception is not arising because of retinal disparity. Close one eye and look at the painting. The perception of depth will remain.

A first monocular cue is **linear perspective,** the tendency of parallel lines to seem to converge as they approach the horizon. Linear perspective was referred to earlier in connection with the Moon illusion. A second monocular cue is **interposition,** a cue created when one object blocks some portion of another object. If a person is standing in front of a tree, and the tree is partly blocked, it is easy to see that the tree is behind, not in front of, the person.

A third monocular cue is **shadows.** Shadows are differences in illumination gradients. These tend to help us see rounded surfaces as convex or concave. A fourth monocular cue is **texture gradient.** A texture gradient is perceived when we can see less detail in far away objects than those that are closer to us. Such a gradient appears spontaneously when we look at a field strewn with rocks.

A fifth monocular cue is **motion parallax,** the tendency when moving forward fairly rapidly to perceive differential speeds in objects that are passing by and in those that are being approached. For example, in a traveling car, nearby telephone poles approach rapidly and then flash by. Look down the road. The telephone poles

seem to be approaching slowly. If you can see telephone poles very far away, they seem to be almost stationary.

All of these monocular cues work together to enhance depth perception.

Telepathy belongs to a larger category of phenomena called **extrasensory perception.** Extrasensory perception, or **ESP,** is the capacity to be aware of external events without the use of one of the conventional senses such as vision or hearing. ESP is referred to as the *sixth sense,* there are at least seven readily identified senses. ESP should more accurately be called the *eighth sense.*

There are three kinds of extrasensory perception: (1) precognition, (2) telepathy, and (3) clairvoyance. **Precognition** is the power to know what will happen in the future. Living almost five hundred years ago, the French physician and astrologer Nostradamus is one of the more famous individuals in history purported to have had precognitive powers.

Telepathy is the power to send and receive mental messages. The ability to read the minds of people who can't read yours is also considered to be a telepathic power. A spy with this ability would have a useful psychological tool.

Clairvoyance is the power to have visions and "see" something out of the range of normal vision. (The word *clairvoyance* has French roots meaning "clear seeing.") Some clairvoyants are asserted to be able to give medical readings and visualize an illness in another person in the same way that an X-ray machine can. A person who can combine the two powers of precognition and clairvoyance is thought to be able to both predict and visualize future events. The term *seer* implies an ability to combine these powers.

Although not a form of ESP, there is another power often associated with it. This is **psychokinesis** or **PK.** Psychokinesis is the power to move objects using only energy transmitted by the mind.

All four of the phenomena mentioned above are combined into a general class of mental abilities called **psi powers,** powers of the mind that are thought to transcend the conventional laws of physics and our ordinary understanding of natural science. Psi powers are sometimes also called "wild talents."

It is not possible at this time to make a simple statement saying that psychology either accepts psi abilities as real or rejects them as false. It *can* be asserted that many psychologists—perhaps most—are unwilling to accept the reality of these phenomena. They don't believe that the data are sufficiently convincing. The reality of psi powers is still open to question.

(*adopted from "Psychology: A Self-Teaching Guide*" *Frank J. Bruno*).

II. Retell both texts 2 and 3 using the plan below.

1. What can the sharpening of a perception on repeated presentations of a stimulus be attributed to?
2. What is a cell assembly according to Hebb?
3. How is the hypothesis that we not only perceive, but know we perceive called?
4. What is an illusion?
5. What is a delusion?
6. What perception is called a hallucination?
7. How is binocular vision defined?
8. What is the principal cue for depth perception arising from binocular vision?
9. What kind of vision is monocular one?
10. What are the five monocular cues?
11. How is the tendency of parallel lines to seem to converge as they approach the horizon called?
12. What monocular cue are differential speeds associated with?
13. What are the three kinds of extrasensory perception?
14. How is the power to know what will happen in the future called?
15. What is telepathy?
16. What kind of ESP is the word *vision* associated with?
17. What is PK?
18. What kind of powers is called "wild talents" such as ESP and PK?

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

Raw data of experience; degree of confidence; innate tendency; closure; sensory level; disconnected tones; sharpening of perception; neurons fire; cell assembly; cognitive hypothesis; consciousness; delusion; idiosyncratic fashion; depth perception; three-dimensional; retinal disparity; to deprive; linear perspective; interposition; concave; motion parallax; illumination gradient; conventional sense; precognition; telepathic power.

II. Give English equivalents to the following words and expressions from the text.

Отдаленный; определять поведение; законы Гештальт–психологии; близость; иметь общее; незнакомый; кора головного мозга; внешний образ; ложное восприятие; галлюцинация; невидимый; ненормальный; выполнять; бинокулярное зрение; монокулярный признак; воспринимать; единый образ; сходиться; тени; выпуклый; градиент текстуры; двигаться дальше / вперед; увеличивать; ясновидение; мысленно видеть; убеждать.

III. Find the synonyms to the given words.

1. innate	a) clear seeing
2. cue	b) help
3. monocular	c) inborn
4. binocular	d) with one eye
5. extrasensory	e) signal
6. clairvoyance	f) with two eyes
7. assistance	g) external

IV. Combine the words in column A with those in B to make word combinations and use them in the sentences of your own.

A	B
1. have	a) off chain reactions
2. make	b) forward rapidly
3. set	c) of vision
4. associate	d) with information
5. be deprived	e) mental messages
6. move	f) clear
7. receive	g) into a class
8. combine	h) with a particular sense
9. provide	i) in common

V. Match the key terms with their definitions.

1. perception	a) the power to have visions and "see" something out of the range of normal vision.
2. closure	b) the capacity of the visual portion of the cortex to integrate two images into a meaningful whole.
3. common fate	c) the organization and the meaning we give to primitive information.
4. cognitive learning	d) a general class of mental abilities that are thought to transcend the conventional laws of physics and our ordinary understanding of natural science.
5. illusion	e) the Gestalt law which exists when all of the elements of a perceptual object move or act together.
6. zipper function	f) a monocular cue which is perceived when we can see less detail in far away objects than those that are closer to us.
7. linear perspective	g) the innate tendency to fill in gaps in information and make a perceptual object into a complete whole.

8. texture gradient	h) a false perception that does not fit an objective description of a stimulus situation.
9. clairvoyance	i) the tendency of parallel lines to seem to converge as they approach the horizon.
10. psi powers	j) an important aspect of the perceptual process in which consciousness plays an important role.

VI. Complete the table with the correct form of the word.

Verb	Noun	Noun	Adjective
	perception		available
stimulate		experience	
	limit		conventional
integrate		vision	
	research	power	
	organization		distinct
determine		ability	
	arrangement		ill
move		cognition	
	consideration		disconnected

VII. Study the text and give its short summary in English.

Любой предмет обладает множеством самых разнообразных сторон и свойств. Возьмем, например, кусок сахара: он твердый, белый, сладкий, имеет определенную форму, объем и вес. Все эти свойства объединены в одном предмете. И мы воспринимаем и осмысливаем их не порознь, а как единое целое — кусок сахара. Следовательно, объективной основой восприятия образа как целостного является единство и вместе с тем множественность различных сторон и свойств предмета. Целостный образ, отражающий непосредственно воздействующие на органы чувств предметы, их свойства и отношения,

называется восприятием. Восприятие человека включает в себя осознание, осмысливание предметов, их свойств и отношений, основанное на вовлечении каждый раз вновь получаемого впечатления в систему уже имеющихся знаний.

Важнейшее значение в процессе восприятия имеет выделение из всей совокупности ощущений определённой группы их, относящейся к данному объекту.

Я смотрю из окна на улицу и замечаю в толпе, идущей по тротуару, своего знакомого. Я начинаю следить за ним. Тогда фигура моего знакомого становится объектом восприятия, а всё остальное, что я вижу на улице: дома, мостовая, движущаяся толпа, едущие машины,— образует фон, из которого выделяется этот объект.

В фойе театра я веду с кем-нибудь разговор. На фоне множества голосов, шума шагов сотен людей и других звуков речь моего собеседника выделяется для меня как объект восприятия.

В огромном большинстве случаев выделение объекта из фона совершается без всякого труда, мгновенно, «само собой». Возможны, однако, такие условия, при которых выделение объекта становится трудной задачей. Одним из важнейших условий хорошего наблюдения является уменье легко и быстро выделять из фона объекты, имеющие значение для проводимого наблюдения.

В основе выделения объекта лежат определённые группировки пятен и линий в зрительном восприятии, звуков — в слуховом и т. д. Такого рода объединение отдельных элементов в группы зависит от целого ряда условий. В зрительном восприятии существенную роль играет расстояние: близко расположенные элементы объединяются в одну группу. Не менее существенное значение имеет сходство цвета. На этом принципе основана маскировочная окраска пятнами разных цветов: в результате «отпадения к фону» некоторых пятен форма предмета кажется искажённой. Гораздо большее значение для результатов группировки имеют, однако, факторы другого рода. При беглом взгляде на комнату я сразу различаю столы, стулья, шкафы, картины и т. д. как

отдельные, самостоятельные вещи. Но тут я руководствуюсь главным образом не близостью отдельных воспринимаемых пятен друг к другу и не сходством их по цвету. Ножка стола может быть совсем рядом с ножками стула и иметь одинаковый с ними цвет. И всё же она объединяется не с ними, а с другими ножками того же стола, хотя они отстоят от неё гораздо дальше, и с крышкой его, хотя она обита зелёным сукном и, следовательно, совсем не похожа по цвету на ножки. Отдельные пятна в поле зрения объединяются друг с другом на том основании, что они соответствуют отдельным частям одного и того же предмета. А это возможно лишь потому, что наше восприятие имеет осмысленный характер.

Глядя на комнату, я осмысливаю всё, что я вижу. Длинное коричневое пятно определённой формы я понимаю как ножку стола, и вследствие этого оно объединяется с пятнами, соответствующими другим частям того же стола. Такого рода смысловые группировки, играющие центральную роль в нашем восприятии, возможны только на основе знакомства с предметами, которое мы постепенно приобрели, начиная с самых первых лет нашей жизни[1].

VIII. Make a presentation on THE PERCEPTION AND ITS MAIN ROLES using all necessary vocabulary from the unit and your own knowledge of this theme.

QUIZ

For questions 1-8 choose the answer a-d which you think fits best according to the texts you studied:

1. According to Koffka, the actual world “out there,” the world as defined by physics is

a. the phenomenal world

b. the geographical world

c. the psychological world

d. the subjective world

2. One of the following is *not* a Gestalt law.

a. Proximity

b. Similarity

c. The cognitive hypothesis

d. Closure

3. What hypothesis states that we not only perceive, but also know what we are perceiving?

a. The cognitive hypothesis

b. The sensory hypothesis

c. The motor-neuron hypothesis

d. The Wertheimer-Koffka hypothesis

4. An illusion is

a. a false belief

b. a kind of hallucination

c. the same thing as a delusion

d. a false perception

5. The Moon illusion

a. is caused by large changes in the Moon's distance from the Earth

b. provides a good example of size constancy

c. provides a case in which size constancy breaks down

d. violates figure-ground perception

6. The principal depth perception cue associated with binocular vision is

a. linear perspective

b. texture gradient

c. motion parallax

d. retinal disparity

7. One of the following is *not* a kind of extrasensory perception.

a. Psychokinesis

b. Precognition

c. Telepathy

d. Clairvoyance

8. What is the status of psi powers in psychology as a science?

a. Psi powers are proven facts

b. No one has done experiments on psi powers

c. The reality of psi powers is still open to question

d. Telepathy is real, but clairvoyance is not

GLOSSARY

Term	Transcription	Definition
Binocular vision	[bɪ'nɔkjulə] 'vɪʒ(ə)n]	Vision involving the use of both eyes.
Cell assembly	[sel ə'semblɪ]	A stable group of neurons that are used over and over by the brain to create a representation of the external pattern.
Clairvoyance	[ˌkleə'vɔɪən(t)s]	The ability to gain information about an object, person, location or physical event through means other than the known human senses, a form of extra-sensory perception.
Closure	['kləuʒə]	A psychological term that describes the desire or need individuals have for information that will allow them to conclude an issue that had previously been clouded in ambiguity and uncertainty.
Cognitive hypothesis	['kɔgnətɪv haɪ'pɔθəsɪs]	The hypothesis that we not only perceive, but know what we are perceiving.
Cognitive	['kɔgnətɪv	Learning in which consciousness plays an

learning	'lɜːnɪŋ]	important role.
Common fate	['kɔmən feɪt]	A Gestalt principle of organization holding that aspects of perceptual field that move or function in a similar manner will be perceived as a unit.
Delusion	[dɪ'luːʒ(ə)n]	An erroneous belief that is held in the face of evidence to the contrary.
Extrasensory perception (ESP)	[ˌekstrə'sen(t)s(ə)rɪ pə'sepʃ(ə)n]	Reception of information not gained through the recognized physical senses but sensed with the mind.
Gestalt	[gəˈʃtɑːlt]	Configuration or structure which forms a unified whole and cannot be predicted from its individual elements.
Hallucination	[həˌluːsɪ'neɪʃ(ə)n]	In the broadest sense of the word, is a perception in the absence of a stimulus. In a stricter sense, hallucinations are defined as perceptions in a conscious and awake state in the absence of external stimuli which have qualities of real perception, in that they are vivid, substantial, and located in external objective space.
Illusion	[ɪ'l(j)uːʒ(ə)n]	A distortion of the senses, revealing how the brain normally organizes and interprets sensory stimulation.
Interposition	[ˌɪntəpə'zɪʃ(ə)n]	A monocular cue created when one object blocks some portion of another object.
Linear perspective	['lɪnɪə pə'spektɪv]	The tendency of parallel lines to seem to converge as they approach the horizon.
Monocular	[mɔ'nɔkjulə	Vision with only one eye.

vision	'vɪʒ(ə)n]	
Motion parallax	[['məuʃ(ə)n 'pærəlæks]	A displacement or difference in the apparent position of an object viewed along two different lines of sight, and is measured by the angle or semi-angle of inclination between those two lines.
Perception	[pə'sepʃ(ə)n]	The organization, identification, and interpretation of sensory information in order to fabricate a mental representation through the process of transduction, which sensors in the body transform signals from the environment into encoded neural signals. All perception involves signals in the nervous system, which in turn result from physical stimulation of the sense organs.
Phase sequence	[feɪz 'siːkwən(t)s]	A set of cell assemblies grouped together.
Precognition	[ˌpriːkɒgˈnɪʃ(ə)n]	A type of extrasensory perception that would involve the acquisition or effect of future information that cannot be deduced from presently available and normally acquired sense-based information or laws of physics and/or nature.
Proximity	[prɔk'sımətı]	A Gestalt principle of organization holding that (other things being equal) objects or events that are near to one another (in space or time) are perceived as belonging together as a unit.
Psi powers	[psi 'pauəs]	Powers of the mind that are thought to

		transcend the conventional laws of physics and our ordinary understanding of natural science.
Psychokinesis (PK)	[ˌsaɪkəukaɪ'niːsɪs]	The power to move something by thinking about it without the application of physical force.
Shadow	['ʃædəu]	An area where direct light from a light source cannot reach due to obstruction by an object. It occupies all of the space behind an opaque object with light in front of it.
Telepathy	[tə'lepəθɪ]	The power to send and receive mental messages.
Texture gradient	['tekstʃə gradient]	A monocular cue which is perceived when we can see less detail in far away objects than those that are closer to us.
Zipper function	['zɪpə 'fʌŋkʃ(ə)n]	The capacity of the visual portion of the cortex to integrate two images into a meaningful whole.

UNIT 5

THINKING: EXPLORING MENTAL LIFE

Objectives

After completing this unit, you will be able to

- define thinking;
- specify three basic kinds of mental concepts;
- describe various strategies for solving problems;
- explain how mental sets can present obstacles to solving problems;
- distinguish between logical thinking and logical errors;
- state the core feature of the creative process.

Pre-reading tasks

I. In groups of four or five give your own definition of thinking. Compare your ideas.

II. Comment on the following quotation: «We are what we think». How do you understand it?

While-reading tasks

III. Before reading the text practice the following proper names for pronunciation.

William James [ˈwɪljəm ˈdʒeimz]

Nicolas Copernicus [ˈnikələs kɔʊˈpərnɪkəs]

Gregor Mendel [ˈgregə(r) ˈmendəl]

Freud [ˈfrɔid]

5.1. Forming Concepts

The study of thinking has a long and respectable tradition in both philosophy and psychology. William James, the founding personality of a school of psychology called **functionalism**, defined psychology as the science of mental life. And this is

close to the commonsense view of psychology. Most people think of it in this way. It is the science of the mind; and the concept of the mind includes both our conscious awareness and our ability to think.

Thinking is a mental process characterized by the use of symbols and concepts to represent both inner and outer reality. A symbol is a word, mark, sign, drawing, or object that stands for something else. The process of thinking about thinking is called metathought.

A concept is a mental category. Concept is an idea that represents a class of objects or events. They are powerful tools because they allow us to think more abstractly, free from distracting details. It is a way in which we organize and simplify information. Concept formation is the process of classifying information into meaningful categories. Adults more often acquire concepts by learning or forming rules. For example, a triangle must be a closed shape with three sides made of straight lines. Rule learning is generally more efficient than examples, but examples remain important. It is unlikely that memorizing a series of rules would allow an uninitiated listener to accurately categorize punk, new wave, fusion, salsa, heavy metal, and rap music.

Concepts put the world of experience into mental boxes. There are three basic kinds of concepts: conjunctive, disjunctive and relational.

A conjunctive concept strings together perceived attributes. A conjunction in grammar has the function of joining words and phrases. Similarly, a conjunctive concept joins attributes to make a perceptual whole. It refers to a class of objects having more than one feature in common. Sometimes called "and" concepts: to belong to the concept class, an item must have "this feature and this feature and this feature." For example, a motorcycle must have two wheels and an engine and handle bars. The concept of a lemon is conjunctive because to most of us a lemon is an object that has a yellow skin and an elongated shape and a somewhat sour taste.

Concepts are formed by both positive and negative exemplars. A positive exemplar is an object or an idea that fits the concept that can be contained within it. A

negative exemplar is an object or an idea that does not fit the concept that cannot be contained within it.

A disjunctive concept treats perceived attributes in either-or terms. It refers to objects that have at least one of several possible features. These are "either-or concepts." To belong, an item must have "this feature or that feature or another feature." In the game of baseball, a strike is either a swing and a miss or a pitch down the middle or a foul ball. The either-or quality of disjunctive concepts makes them difficult to learn.

A relational concept treats perceived attributes in terms of some connection between objects or ideas such as “more than,” “less than,” “bigger than,” “more beautiful than,” and so forth. A concept such as “cheapskate” is a relational concept.
Concepts have two types of meaning: denotative and connotative meaning. The denotative meaning of a word or concept is its exact definition. Connotative meaning is its emotional or personal meaning. Connotations of some one thing can differ.

IV. Look through the text again and answer the following questions.

1. How did William James define psychology?
2. What is thinking?
3. What is metathought?
4. What is a concept and concept formation?
5. How many kinds of concepts are there? What are they?
6. What kind of a concept treats perceived attributes in terms of some connection between objects or ideas such as «more than» or «less than»?
7. What kind of a concept strings together perceived attributes?
8. Which exemplar identifies an object or an idea that fits a concept that can be contained within it?
9. In what way does connotative meaning differ from denotative one?

5.2. Solving Problems. Obstacles to Solving Problems

I. You are going to read the text about problem solving techniques. Five paragraphs have been removed from the text. Choose from the paragraphs A-F the one which fits each gap (1-5). There is one extra paragraph which you don't need to use.

It is a fair question to ask: Why do we think at all? A good answer to the question is: One of the reasons we think is in order to solve problems. Human beings lead complex lives. We have all kinds of problems to solve. Every day is filled with challenges. And it is necessary to think clearly and effectively if one is to be successful in meeting the problems and challenges of life.

1.	

A heuristic approach is based on the attitude "I can solve this problem even if I can't solve it in an elegant way." A particular kind of heuristic approach is **a means-end analysis**. A means-end analysis is characterized by identifying a goal and then finding a way in which the goal can be obtained. Questions such as: "Where is this going?" and "How will I get there?" are associated with a means-end analysis.

If possible, it is desirable to be systematic when there is a problem to be solved. This is particularly true if the problem involves a project that will require a span of time involving days or even weeks. When an orderly approach to solving a problem is taken, psychologists have identified five important steps.

2.	

Assume that Laura, a thirty-three-year-old engineer, wife, and mother of two children, wants to lose some weight. It's a problem because she's been trying to lose weight off and on for a couple of years without much success. She decides to use her training as an engineer to solve her problem.

3.	

Third, she lets the information incubate before she takes action. She reflects on what she has learned. She feels a little bit overwhelmed and confused by contradictory

information in the books she has read. She thinks, “I’ll just sleep on all of this stuff for a while and let my subconscious mind bring things together.” Fourth, illumination arrives in about a week.

4.	

She writes an eating plan for herself, one that she believes she can follow. Fifth, Laura begins to eat in accordance with her plan. She verifies that the plan is working—or not working—by weighing herself in the morning every other day. The path of problem solving is often a rocky road.

5.	

In principle **a mental set** can either help you solve a problem or interfere with the discovery of a solution. A mental set that interferes with obtaining a solution contains a **false assumption**, a belief that is not correct. A mental set can be given by nature. Consider the Wright brothers attempting to invent the airplane. They had to break the mental set that wings must flap. Birds do not have stationary wings like airplanes. **Functional fixedness** exists when there is a need to use a tool or familiar object in a novel way and one can’t perceive the novel way. Functional fixedness is really a special case of mental set. There is often a mental set that a tool is designed for one and only one purpose. And this fixes the user’s attention on that and only that particular function of the tool.

A

These are definition of the problem, preparation, incubation, illumination, and verification. This general approach can be applied to many problems. Usually a problem can be stated in question form. Examples include: “How do I get a weed-free lawn?”, “How do you raise a child to have high self-esteem?”, “How do you study effectively for examinations?” and “How do you lose weight?”

B

She feels she has new insights about weight control. She sees that she needs to stay away from fad diets. She decides that she has been eating too many refined carbohydrates and excessive amounts of saturated fat.

C

There are obstacles that can interfere with obtaining a solution. Two of the principal obstacles are mental sets and functional fixedness. A mental set is a subconscious determining tendency. It is there, a part of our cognitive processes, but sometimes its content doesn't enter **consciousness**.

D

Two basic ways to solve problems are to employ either **algorithms** or heuristic approaches. An algorithm is a formula. If followed carefully, it will always solve the problem. Formulas in math books are algorithms. So are recipes in cookbooks and step-by-step instructions for operating a microwave oven. Solving a problem without a formula involves the use of heuristic approaches. Heuristic approaches employ principles, rules-of-thumb, and insights to solve problems.

E

Perhaps by the third problem you are adding without telling yourself "I need to add these numbers." The action of obtaining sums is now determined by a mental set to add. As you can see, this is somewhat helpful. It gives you less to think about and juggle at a conscious level.

F

She takes a systematic approach. First, she defines the problem in a precise way. She decides that she will stop vaguely saying, "I want to lose some weight." Instead she asks the question, "How can I lose ten pounds in the next five weeks?" Second, she prepares to lose weight by gathering information. She obtains two books on nutrition, a third book on the psychology of weight control, and a fourth book on breaking habits. She takes notes on key points in the books.

II. Read the full text again and answer the following questions. Then using your answers, give your summary of the text.

1. Why do people need to think?

2. What strategies can you use to solve problems?

3. How do you understand the heuristic approach?

4. What kind of heuristic approach is characterized by defining a goal and then finding a way in which it can be attained?

5. What is the first step in systematic problem solving?

6. What step in systematic problem solving involves reflection on what one has learned?

7. What step in systematic problem solving is associated with insight?

8. What are the main difficulties in problem solving?

5.3. Logical Thinking

I. Read the text and decide whether the following statements are true or false.

1. Logical thinking is an integral part of rational thought.

2. **Deductive reasoning** is one of two essential parts of reasoning usually employed by scholars.

3. Predicate thinking is either inductive or deductive.

4. Inductive reasoning is characterized by conclusions based on previous known facts.

5. A logical error that takes place when the comparison between two things is inappropriate is called **overgeneralization**.

6. Attack on character presumably focuses on adverse features of a person.

In order to think effectively, it is necessary to think in a logical manner. **Logical thinking** is thinking that employs valid reasoning to reach a correct conclusion. Logical thinking is the foundation of rational thought, thought that fits the real world and allows us to function well in it. There are two basic kinds of reasoning involved in logical thinking: inductive reasoning and deductive reasoning.

Inductive reasoning is characterized by making observations and gathering information until a general conclusion is reached. It is the basic method of science. About 500 years ago the astronomer Nicholas Copernicus made observations that led him to formulate the heliocentric theory of the solar system. About 150 years ago the botanist Gregor Mendel raised sweet peas, studied the characteristics of their flowers, and formulated his theory of heredity.

Deductive reasoning is reasoning in which a conclusion follows from a premise. The underlying structure of deductive reasoning is if-then. Such reasoning allows for predictions, and it is often the next step taken after inductive reasoning is employed.

According to Freud, there is a kind of thinking employed at the unconscious level of the mind that is overly primitive. It is neither inductive nor deductive. Freud called this kind of thinking predicate thinking. It is also called paleological thought, meaning "old" thought. It is presumably the kind of thinking used by primitive, prescientific people and by preschool children. According to Freud, when two sentences have identical predicates (i.e., "first parts") the objects or people in the sentences become associated in an illogical manner. Here is an example:

1. Automobile make X is driven by beautiful people.
2. Automobile make X is the kind of car I drive.
3. Therefore I am a beautiful person.

Predicate thinking is not the only way in which thinking can be led astray. Logical errors are common. Such errors include overgeneralization, false analogy, appeal to authority, arguing in circles, and attack on character. **Overgeneralization**, also known as hasty generalization, takes place when we reach a conclusion that goes substantially beyond the facts that inspire it. An **analogy** consists of the observation that two basically dissimilar things have some resemblance to each other. A false analogy exists when the comparison between two things is inappropriate. **Appeal to aut**hority is characterized making by a reference to a respected person, believed to be well informed, when one's own logic or reasoning is weak. **Arguing in ci**rcles takes place when one's premise contains the conclusion that one wants to reach. **Attack on**

character picks out a negative attribute of another person and uses this attribute to discredit other aspects of the person's behavior.

(*adopted from* "*Psychology: A Self-Teaching Guide" Frank J. Bruno*)

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

Common sense; human being; conscious awareness; uninitiated listener; conjunctive concept; relational concept; disjunctive concept; challenge; heuristic approach; a rule-of-thumb; to identify a goal; incubation; to feel overhelmed; subconscious mind; to take an approach; to interfere with; false assumption; to reach a conclusion; a premise; to lead ashtray; to fix one's attention on smth; to argue in circles; presumably; off and on; a span of time; predicate thinking.

II. Give English equivalents to the following words and expressions from the text.

Образец; логическое мышление; решать проблему; противоречивая информация; в соответствии с чем-либо; походить на; препятствие; разумная мысль; основатель; психический процесс; ложная аналогия; отвлекающие детали; формирование концепта; точное определение; анализ средств и целей; достигать цели; озарение; познавательный процесс; функциональная фиксированность; аппеляция к авторитету; необоснованное обобщение.

III. Fill in the gaps with the correct terms from the text.

1) heuristic approach; 2) functional fixedness; 3) metathought; 4) means-end analysis; 5) logical; 6) predicate; 7) false assumption; 8) concept; 9) inductive reasoning

1) _____ is characterized by making observations and collecting information until a general conclusion is reached.

2) _____ help us to organize and simplify information.

3) Solving a problem without a formula involves the use of _____ _____.

4) A mental set that interferes with obtaining a solution contains a _____ _____.

5) _____ exists when there is a need to use a tool in a novel way and one can't perceive the novel way.

6) Thinking about thinking is called _____.

7) A problem solving strategy aimed at reducing the difference between a current state and a goal state is called _____.

8) Thinking based on facts, rational thought and clear reasoning is regarded as _____.

9) A kind of thinking employed at the unconscious level of the mind by primitive people is known as _____ thinking.

IV. Arrange the words given in A and B in pairs of synonyms.

A) to allow; to acquire; to remain; to invent; to involve; to require; to verify; to contain; to pick out.

B) to need; to comprise; to select; to permit; to obtain; to stay; to include; to confirm; to create.

A) attribute; illumination; goal; approach; resemblance; obstacle; error; content.

B) inspiration; characteristic; aim; similarity; mistake; meaning; barrier; method.

A) efficient; fair; particular; precise; overly; vaguely.

B) reasonable; excessively; clear; effective; uncertainly; special.

V. Combine the words in column A with those in B to make word combinations and use them in the sentences of your own.

A	B
conscious	thought
commonsense	thinking
weak	set
systematic	error
logical	process
mental	mind
complex	view
cognitive	reasoning
predicate	approach
rational	lives

VI. Use an appropriate word from the box to complete the text.

positive	psychology	environment	negative	success
fears	compared	brain	full	surrounded	confuse
body	respond	mind	capabilities	activity

The people nowadays are 1) _____ by so many worries and 2) _____ stemming from various issues related to relationships, finance, career, family life, office etc. that taking out time to think positively becomes a rare 3) _____. Positive thinking by its very meaning is all about the state of one's 4) _____ rather than one's actions. Of course the state of mind eventually gets manifested in the form of actions, but it all starts from one's 5) _____. You

must firmly believe and be confident about the fact that you are endowed with all sorts of 6) _____, health and attitude to taste 7) _____. This is also known as 8) _____ affirmation.

A synonym often used for positive affirmation is self-suggestion. However, self-suggestion refers to the method by which one can rid oneself of all the 9) _____ thoughts that stop him or her from thinking positive. Subjecting oneself to repeated self-suggestions can work wonders on the individual by leading a person to a life state 10) _____ of positive thoughts.

It is often commented in the 11) _____ parlance that what the mind visualizes, body is capable to achieve. It is the mind that is the center of one's existence and determines all the actions of a person. Thus, if you are able to visualize success in you mind, your 12) _____ and your surroundings start working towards the accomplishment of that goal in a very spontaneous manner. The more positive thoughts you feed your mind with, the more positive results you will see in your 13) _____.

It is very important that you do not 14) _____ positive thinking with daydreaming. Positive thinking is much more rooted in the reality of our day-to-day existence as 15) _____ to dreaming. It instills in us the ability to 16) _____ to the situations in a positive manner, thus helping us change the circumstances for better.

VII. Complete the table with the correct form of the word.

Verb	**Noun**	**Noun**	**Adjective**
inspire			contradictory
	belief	deduction	
treat			logical
	thinking	heredity	
	assumption		weak
invent		structure	

	preparation		real
set		excess	
	category		meaningful
solve		reason	

VIII. Translate the following sentences into Russian.

1. The purpose of thinking is to solve problems and to face challenges of life. Thinking starts with a problem and ends in a solution. It's a kind of tool for adapting ourselves to the physical and social environment.

2. Concept formation is the process of classifying information into meaningful categories. Concepts help us to organize information in meaningful groups.

3. Both positive and negative exemplars take part in forming concepts.

4. Solutions to problems take the form of algorithms – rules that are not necessarily understood but guarantee a solution, or heuristics – rules that are understood but do not always promise a solution.

5. Systematic problem solving includes five important steps such as problem defining, preparation, incubation, illumination and verification. This approach can be applied to a variety of problems.

6. Of course, problem-solving is not a plain process. There are a number of different obstacles that can interfere with our ability to solve a problem quickly and efficiently. Researchers have described a number of these mental obstacles, which include functional fixedness, mental sets and false assumptions.

7. The term «functional fixedness» refers to the tendency to view problems only in their customary manner. Functional fixedness prevents people from fully seeing all of the different options that might be available to find a solution.

8. A mental set is the tendency people have to only use solutions that have worked in the past rather than looking for alternative ideas. They can also lead to inflexibility, making it more difficult to find effective solutions.

9. Our ability to think clearly and in a logical way involves two basic kinds of reasoning: inductive reasoning and deductive reasoning.

10. The concept of logical error is probably as old as the concept of rationality; when one talks about the rationality of any sort of human behavior, one should give the criteria of distinguishing actions which can be called ‘rational’ from those which cannot. Since logic is understood as the tool of cognition we are justified in naming rational knowledge-seeking activities ‘logical’. Every violation of the rules governing knowledge-seeking activities constitutes the ‘illogical’ behavior.

IX. Render the text into English.

Метод Мозгового Штурма

Один из наиболее популярных методов генерации идей - это "мозговой штурм", который был изобретен Алексом Осборном, руководителем рекламного агентства, в 1930 г.

В то время как большинство людей знакомо с термином мозговой штурм, многие не знают, что именно он означает. Как правило, под ним ошибочно понимается живое обсуждение между двумя или более людьми, нацеленными на обмен новыми идеями. Это выглядит как неформальный, неструктурированный и раскованный обмен между участниками.

На самом деле, мозговой штурм - это строгий, структурированный процесс, в котором обсуждение и рассуждение происходит в очень четко определенных рамках.

Сам по себе данный метод не имеет четких характеристик в области применения. Он может быть использован как для решения обычных бытовых вопросов, так и для разрешения сложных, трудоемких задач.

Основные рекомендации при проведении мозгового штурма:

1. Найти оптимальное помещение и оборудование. Найдите место, где вы и остальные участники не будут потревожены как минимум на один или два часа, и убедитесь, что у вас есть достаточное количество цветных маркеров

(ручек), большие листы бумаги, и место на стене для закрепления бумаги. Визуальная обратная связь имеет решающее значение.

2. Успокоить участников и установить правила. Уделите немного времени на "разогрев" участников. Если они новички в мозговом штурме, покажите им примеры "несуразных идей", которые сработали и расскажите о правилах мозгового штурма.

3. Сфокусироваться на теме мозгового штурма. Сфокусируйтесь на проблеме, попросив участников сформулировать ее тремя или более способами. Запишите утверждения в самом верху, так, что бы все видели. Хорошей подсказкой будет, если каждая формулировка будет начинаться с фразы "Как…". Формулируйте проблему аналогичными фразами, стараясь взглянуть на объект с разных сторон. Выберите один из вариантов в качестве вопроса для мозгового штурма.

4. Руководить процессом мозгового штурма четко в соответствии с правилами. Начинайте обсуждение, предложив несколько собственных идей, и как только идеи начнут поступать, записывайте их сверху вниз в порядке поступления, и вывешивайте листы так, что бы все видели. Напоминайте участникам следовать правилам. Старайтесь сохранить каждую идею максимально небольшим количеством слов (без потери смысла, конечно). Нумерация имеет большое значение для дальнейшего разбора и оценки развития обсуждения. Количество имеет первостепенное значение. Типичный мозговой штурм дает от 50 до 100 идей. Когда поток идей закончится, сделайте короткий перерыв и вернитесь назад для критического обсуждения всех созданных идей. Большинство идей будут просто вычеркнуты, как непрактичные, но остальные идеи могут удивительно разными путями послужить для решения проблемы.

5. Критически пересматривать результаты. Пересмотрите результаты, обсуждая и внимательно рассматривая то, что получилось.

Фактическая задача метода мозгового штурма заключается в следующем: все участники свободно предлагают решения обсуждаемого вопроса. Никто не

может прямо или косвенно относиться критически к чужой идее, каждый человек должен одобрять других насколько это возможно, каждый человек должен создавать или воодушевлять других на создание максимально возможного количества идей, независимо от их абсурдности. Скорость, количество, и непосредственность являются девизом этого процесса.

Четкое следование структуре пяти условий и вышеописанным правилам необходимо, что бы сломать неосознанные ограничения и предубеждения, которые присутствуют в нашем мышлении в обычной обстановке и позволить нам быть по-настоящему творческими. В большинстве случаев нет ничего плохого в наших предубеждениях, на самом деле они нужны нам для того, чтобы действовать рационально. Представьте себе, например, переосмысление поездок на работу каждое утро. Намного рациональнее делать это обычным способом, без лишних вопросов. Иногда, тем не менее, обычный способ перестает работать и должен быть оспорен со свежими мыслями и новым взглядом.

Как любая творческая активность, метод мозгового штурма не дает никакой гарантии успеха. Под конец вы можете отвергнуть все 100% накопившихся идей. С другой стороны вы можете открыть для себя самые неожиданные решения вашей проблемы.

QUIZ

For questions 1-9 choose the answer a-d which you think fits best according to the texts you studied:

1. The process of thinking about thinking is called

    a. cognitive existentialism

    b. symbolic production

    c. functional reflection

    d. metathought

2. What kind of a concept strings together perceived attributes?

    a. a relational concept

b. a disjunctive concept

c. an iconic concept

d. a conjunctive concept

3. What kind of a concept treats perceived attributes in terms of some connection between objects?

a. a relational concept

b. a disjunctive concept

c. an iconic concept

d. a conjunctive concept

4. Which of the following identifies an object or an idea that fits a concept, that can be contained within it?

a. positive exemplar

b. negative exemplar

c. bipolar exemplar

d. transformational exemplar

5. Step-by-step instructions for operating a microwave oven provide an example of

a. a heuristic approach

b. a means-end analysis

c. an algorithm

d. an insight analysis

6. Which of the following correctly defines a mental set?

a. a conscious conditioned reflex

b. an unconscious wish

c. a subconscious determining tendency

d. a false negative

7. What exists when there is a need to use a tool or familiar object in a novel way and one can’t perceive the novel way?

a. cognitive slippage

b. mental facilitation

c. functional fixedness

d. transformational perception

8. What kind of reasoning is characterized by making observations and gathering information until a general conclusion is reached?

a. inductive reasoning

b. deductive reasoning

c. if-then reasoning

d. relational reasoning

9. Deductive reasoning is reasoning in which

a. a premise follows from a conclusion

b. a premise follows from a hyperpremise

c. a conclusion follows from a metaconclusion

d. a conclusion follows from a premise

GLOSSARY

Term	Transcription	Definition
Algorithm	['ælg(ə)rıð(ə)m]	Step-by-step problem-solving procedure.
Analogy	[ə'nælədʒı]	Similarity, comparability.
Appeal to authority	[ə'pi:l tu: ɔ:'θɔrıtı]	A fallacy of defective induction, where it is argued that a statement is correct because the statement is made by a person or source that is commonly regarded as authoritative.
Arguing in circles	['ɑ:gju:iŋ in 'sɜ:kls]	Involves making an argument that doesn't contain any real meaning to it.
Attack on character	[ə'tæk ɔn 'kærəktə]	Involves using something somebody has done wrong in the past to discredit him(her) or his(her) argument.
Concept	['kɔnsept]	Idea, thought; A mental grouping of similar things,

		events, and people that is used to remember and understand what things are, what they mean, and what categories or groups they belong to.
Conjunctive concept	[kən'ʤʌŋktɪv 'kɔnsept]	Something that groups together individual attributes to create a whole.
Consciousness	['kɔnʃəsnəs]	Awareness of yourself and the world around you.
Deductive reasoning	[dɪ'dʌktɪv 'riːz(ə)nɪŋ]	Decision making process in which ideas are processed from the general to the specific.
Divergent thinking	[daɪ'vɜːʤənt 'θɪŋkɪŋ]	The ability to use previously gained information to debate or discuss issues which have no agreed upon definitive resolution.
False analogy	[fɔːls ə'nælədʒɪ]	A fallacy in which an argument is based on misleading, superficial, or implausible comparisons.
False assumption	[fɔːls ə'sʌmpʃ(ə)n]	A mental set that interferes with your ability to find a solution.
Functional fixedness	['fʌŋkʃ(ə)n(ə)l 'fɪksɪdnəs]	When something is thought of only in terms of its functionality, then the person is demonstrating functional fixedness. This type of thinking is narrow and limited, often inhibiting the problem solving process.
Functionalism	['fækʃ(ə)n(ə)lɪz(ə)m]	The school of thought popular in the 19th century emphasizing conscious experiences as a precursor to behavior.

Heuristic approach	[hjuə'rıstık ə'prəuʧ]	Cognitive strategy, or "rule of thumb," often used as shortcut in solving a complex inferential task.
Inductive reasoning	[ın'dʌktıv 'riːz(ə)nıŋ]	Decision making process in which ideas are processed from the specific to the general.
Logical thinking	['lɔʤık(ə)l 'θıŋkıŋ]	Thinking that is coherent and logical.
Means-end analysis	[miːnz end ə'næləsıs]	A type of heuristic approach that involves identifying a particular goal and then trying to find a way in which that goal can be obtained.
Mental set	['ment(ə)l set]	A tendency to respond to a new problem in the manner used to respond to a previous problem.
Mind	[maınd]	The aspect of intellect and consciousness experienced as combinations of thought, perception, memory, emotion, will and imagination, including all unconscious cognitive processes; Brain.
Overgeneralization	[əʊvəˈdʒɛn(ə)rəlʌı ˈzeıʃ(ə)n]	A manner of thinking in which a negative event is viewed as one more example of a pattern of failure.
Predicate thinking (Paleological thought)	['predıkət 'θıŋkıŋ]	A type of thinking that occurs at the unconscious level and is neither deductive nor inductive .
Thinking	['θıŋkıŋ]	Act of forming ideas, act of conceiving in the mind.

UNIT 6

INTELLIGENCE: IN PURSUIT OF RATIONAL THOUGHT AND EFFECTIVE ACTION

Objectives

After completing this unit, you will be able to

- define intelligence;
- describe the approach of the Stanford-Binet Intelligence Scale;
- specify key features of the Wechsler Intelligence Scales;
- explain the concept of an intelligence quotient (IQ);
- compare and contrast the concepts of validity and reliability in psychological testing.

Pre-reading tasks

I. Practise the following for pronunciation:

David Wechsler [ˈdeɪvid ˈweitʃeslə(r)]

Charles Spearman [ˈtʃɑ:lz ˈspɪəmən]

Louis Thurstone [ˈlu:i: ˈθə:stoʊn]

Howard Gardner [ˈhaʊəd ˈgɑ:dnər]

Francis Galton [ˈfra:nsis ˈgɔltən]

Alfred Binet [ˈælfrəd ˈbeinet]

Sorbonne [soʊˈbo:n]

Theodore Simon [ˈθi:ədo: ˈsaɪmən]

Lewis Terman [ˈlu:əs ˈtə:mən]

II. Discuss the following questions as a group.

1. What is intelligence?
2. What makes the study of human behavior a highly controversial question?
3. What abilities does intelligence consist of?
4. What does convergent thinking mean?

5. Characterize the method of factor analysis. What is the difference between factor *g* and factor *s*?

6. Describe Thurstone's model of intelligence.

7. How did Gardner develop the theory of intelligence?

While-reading tasks

III. Read the text and check your ideas.

6.1. Intelligence: What Is It?

No subject in psychology has provoked more intense public controversy than the study of human intelligence. From its beginning, research on how and why people differ in overall mental ability has fallen prey to political and social agendas that obscure or distort even the most well-established scientific findings.

The debate over intelligence and intelligence testing focuses on the question of whether it is useful or meaningful to evaluate people according to a single major dimension of cognitive competence. Is there indeed a general mental ability we commonly call "intelligence," and is it important in the practical affairs of life? The answer, based on decades of intelligence research, is an unequivocal yes. No matter their form or content, tests of mental skills invariably point to the existence of a global factor that permeates all aspects of cognition. And this factor seems to have considerable influence on a person's practical quality of life. Intelligence as measured by IQ tests is the single most effective predictor known of individual performance at school and on the job. It also predicts many other aspects of wellbeing, including a person's chances of divorcing, dropping out of high school, being unemployed or having illegitimate children.

Intelligence is the global ability of the individual to think clearly and to function effectively in the environment. This definition of intelligence is based on the thinking and writing of the clinical psychologist David Wechsler (1896–1981), author of the widely used Wechsler Intelligence Scales.

When examining the definition clearly, several important points emerge. First, intelligence is, to some extent, global. This means that it has a general quality that has an impact on many facets of life. When we think of someone as “smart,” we expect him or her to be a smart businessperson, a smart parent, a smart student, and so forth.

Second, intelligence is associated with the ability to think clearly. This means the ability to use both inductive and deductive logic in an appropriate manner.

The core feature of intelligence, unlike creativity, is the ability to employ **convergent thinking**, defined as the ability to think along conventional pathways. When a question is asked on an intelligence test, there is only one best answer. Consequently, intelligence tests measure convergent thinking. When one learns the basic information associated with a trade or profession, one is required to learn well-established facts and principles.

Third, intelligence implies the ability to function effectively in the environment. A person with normal intelligence has survival skills. He or she can get things done correctly - everything from pumping gas to cooking a meal. The word **environment** includes almost any aspect of an individual’s surrounding world. Therefore, it includes the **social environment**, the world of other people. A person with normal intelligence is able to get along reasonably well with others.

Returning to the global aspect of intelligence, in the first decade of the twentieth century the British researcher Charles Spearman concluded that there is a **general factor** running through all aspects of intelligence. He called this general factor ***g***. Spearman also recognized that there were **specific mental abilities**, and he called this factor ***s***.

Spearman noticed that people who did well on one mental ability test tended to do well on the others, and people who did not do well on one of them also tended not to do well on the others. Spearman devised a technique for statistical analysis, which he called factor analysis that examines patterns of individual differences in test scores and is said to provide an analysis of the underlying sources of these individual differences. Spearman's factor analysis of test data suggested to him that just two

kinds of factors underlie all individual differences in test scores. The first and more important factor Spearman labeled the "general factor," or g, which is said to pervade performance on all tasks requiring intelligence. In other words, regardless of the task, if it requires intelligence, it requires g. The second factor is specifically related to each particular test. But what, exactly, is g? After all, calling something a general factor is not the same as understanding what it is. Spearman did not know exactly what the general factor might be, but he proposed in 1927 that it might be something he labeled "mental energy."

Interested in the nature of specific mental abilities, the American researcher Louis Thurstone made a factor analysis of intelligence tests in the 1930s. **Factor analysis** is a mathematical tool that allows a researcher to pull meaningful clusters out of a set of data. Based on his analysis, Thurstone concluded that there are at least nine primary mental abilities. These include inductive reasoning, deductive reasoning, word fluency, speed of perception, verbal comprehension, verbal fluency, memory, spatial visualization and mathematics.

More recently, the research psychologist Howard Gardner has suggested that we speak of **multiple intelligences** in preference to global intelligence. In his view, intelligences are multiple, including, at a minimum, linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, and intrapersonal intelligence. Taking this approach, one kind of intelligence may be more or less independent of another kind of intelligence. An example of what Gardner means is **kinesthetic intelligence**, the ability to comprehend the position of one’s body in space. Such intelligence is important in athletic performance and dancing.

It is possible to bring together the concept of a general ability with the concept of specific abilities. The general factor, or *g*, is like the palm of a hand. It can be small or large. The specific abilities are like the fingers of a hand, and they can vary in length. This allows for many possibilities.

As you can see, it is difficult to pin intelligence down and say with any kind of finality what it is. This in part is due to the fact that intelligence has the status of a **hypothetical construct**. In science, a hypothetical construct is “constructed” by

the mind of the scientist in order to explain a set of facts. Science freely employs hypothetical constructs. Intelligence as experienced by *you* is not, of course, hypothetical. However, intelligence as measured by a psychologist with an intelligence test is hypothetical. The intelligence has to be inferred from scores, and there is room for error whenever one makes an inference.

6.2. Intelligence Scales

I. For questions 1-5 choose the answer (a, b, c or d) which you think fits best according to the text.

1. Sir F. Galton abandoned his attempts to measure intelligence because
a) he was dismissed from the post
b) he was disheartened by the failure
c) he was forbidden to continue further research in this field
d) he lost interest in the subject

2. The major precondition for creating the Binet-Simon Intelligence Scale was
a) the desire of scientists to measure intelligence in an objective manner
b) lack of reliable knowledge in this area of psychology
c) need to help children with cognitive difficulties
d) friendly relationships between the two scientists

3. The Stanford project made it obvious that
a) only a longitudinal study can be used to measure intelligence
b) highly intelligent children are likely to be more successful in all aspects of life than those with average level of intelligence
c) children with normal intelligence tend to have better health comparing with highly intelligent children
d) there is no direct correlation between the level of intelligence and living standards

4. The Wechsler Scales have an advantage over the Stanford-Binet Scale as

a) they contain three tests for adults, children and preschool children

b) they recognize various types of human intelligence

c) they are more advanced because appeared later

d) these three tests assess general intelligence

5. A longitudinal research

a) provides more accurate results

b) is performed over a period of years

c) requires using of a biometric method

d) is used primarily when measuring human intelligence

The Stanford – Binet Intelligence Scale. One of the first people to attempt to measure intelligence in an objective manner was the English scientist Sir Francis Galton (1822–1911). Working somewhat over one hundred years ago, he used the **biometric method,** meaning he tried to measure intelligence directly by evaluating such physiological measures as strength of grip and perceptual-motor speed. He found that there was little correlation between these measures and intelligence. Discouraged, he discontinued his research in this particular area of human behavior.

Only a few years after Galton abandoned the effort to measure intelligence, Alfred Binet, director of the psychological laboratory at the Sorbonne in Paris, was asked by France's Minister of Public Instruction to devise a way to detect subnormal intelligence. The aim was to give extra instruction and assistance to children with cognitive problems.

Binet, working in collaboration with the scientist Theodore Simon, published the Binet-Simon Scale in 1905. This was the first modern intelligence test, and today's tests still use its basic method—the **performance method.** In brief, the subject is asked to demonstrate the existence of intelligence by giving answers to questions. Correct answers reflect the existence of intelligence. Informally, the **Binet-**

Simon Scale was based on the premise that intelligence *is* as the intelligent individual *does.*

The Binet-Simon Scale established a measure called **mental age,** or **MA.** Mental age is determined by comparing one subject's score on the Binet-Simon Scale with the scores of a group of subjects of the same age.

Binet and Simon expected mental age to rise over time, and it does. In view of the fact that mental age is a changeable number, this created a problem.

The Binet-Simon Scale was translated into English by the Stanford psychologist Lewis Terman. In 1916, only eleven years after Binet and Simon published their test, the **Stanford-Binet Intelligence Scale (SBIS)** was published in the United States. The SBIS became a popular way in which to measure intelligence, and it is still used today in revised form.

One of the questions that interested Terman was: Do highly intelligent children do, overall, better in life than children of normal intelligence? In order to answer the question, Terman started a **longitudinal study,** a research project that measures behavior over a span of time. In this case, the Stanford project, carried on after Terman's death, continued for more than seventy years. The results are clear. On the whole, highly intelligent children grew into highly intelligent adults. They fared better in general in all aspects of life. They had better health, fewer divorces, and better mental and emotional adjustment than subjects with average intelligence.

This result should not be surprising. If intelligence is to mean anything at all as a concept, it must mean that it has value to the individual and society. As already indicated in the definition of intelligence, the ability to think clearly and to function effectively is part and parcel of what it means to *be* intelligent.

The Wechsler Scales. Working for a number of years as the chief psychologist for the Bellevue Psychiatric Hospital in New York City, David Wechsler conducted a substantial amount of research on intelligence. His work culminated in a set of highly regarded intelligence tests called collectively the **Wechsler Scales.** There are three individual tests, and in revised editions they are still used today. The three tests are: the **Wechsler Preschool and Primary Scale of**

Intelligence (WPPSI), the **Wechsler Intelligence Scale for Children (WISC),** and the **Wechsler Adult Intelligence Scale (WAIS).**

The Wechsler Scales have a clear-cut advantage over the Stanford-Binet Scale. The Stanford-Binet measures general intelligence without regard to specific mental abilities. The Wechsler Scales recognize that there are different kinds of intelligence. Two in particular are emphasized: verbal intelligence and performance intelligence. **Verbal intelligence** includes such abilities as word fluency, abstract reasoning, and mathematical ability. **Performance intelligence** includes such abilities as visualization, the perception of the relationship of parts to a whole, and the capacity to relate well to other people. As a consequence, it is possible to obtain two separate IQ scores, a verbal IQ and a performance IQ. The two IQ scores can be combined for an overall IQ score.

The following description is based on the Wechsler Adult Intelligence Scale. Not only is the Scale divided into two large areas, it is also subdivided into a set of eleven subtests, six under the Verbal Scale and five under the Performance Scale.

Keep in mind that the word *scale* is used because sets of questions proceed from easy to difficult. Evaluation is based on how high the subject can climb on the ladder of psychological difficulty. Here is the breakdown:

The Verbal Scale: Each of the following tests consists of a group of questions designed to assess a different area.

Information: level of general knowledge.

Comprehension: ability to understand questions and grasp concepts.

Arithmetic: capacity to grasp and employ mathematical concepts.

Similarities: ability to employ abstract thought.

Digit Span: tasks designed to measure attention span.

Vocabulary: grasp of the meaning of words.

The Performance Scale: Each of the following tests is a set of tasks designed to assess a different area.

Digit Symbol: mental flexibility and ability to employ arbitrary symbols.

Picture Completion: ability to detect the missing parts of an organized whole.

Block Design: ability to relate a printed pattern to a physical construction.

Picture Arrangement: ability to comprehend the «before and after» aspect of time. Also useful in evaluating the subject's level of social intelligence.

Object Assembly: ability to place parts in a correct relationship to a whole.

Under optimal conditions, a trained psychologist administers the Wechsler Adult Intelligence Scale to a given to a subject on an individual basis. The results of the test, when properly scored and evaluated, provide a clear picture of the individual's level of cognitive functioning at both a general level and at the level of specific mental abilities.

6.3. The Concept of an Intelligence Quotient. Validity and Reliability of Testing

I. Read the text and decide whether the following statements are true or false.

1. Chronological age decreases with the increase of one's mental age.
2. The influence of inheritance on IQ level is incontestable.
3. In order to check whether an intelligence test is valid it's necessary to compare scores with correlation coefficient.
4. Intelligence tests are useful in evaluating basic intelligence.
5. A test can be regarded as a reliable one if it demonstrates stable results.
6. The Wechsler Scales are considered to be more valid and reliable than the Stanford-Binet Intelligence Scale.

Intelligence Quotient. The concept of mental age (MA) is of limited value because it is unstable. As one's **chronological age (CA)** increases, so does one's mental age. Consequently, a German psychologist named William Stern suggested that a ratio based on the comparison of mental age with chronological age would tend to be relatively stable. Stern proposed the following formula:

$$IQ = MA/CA * 100$$

IQ stands for **intelligence quotient.** The IQ is a score derived from one of several different standardized tests designed to assess intelligence. The IQ is a quotient because it is the result of a division process. MA stands for mental age. CA stands for chronological age.

CA is divided into MA and multiplied by 100. Stern suggested the multiplication step be employed with the aim of getting rid of decimals in the final quotient. For example, instead of an IQ being reported as 1.15, it is reported as 115.

Research has demonstrated that the IQ score is a random variable, meaning a variable distributed according to the laws of chance. This means that in a large sample of scores the scores will tend to take on a bell-shaped distribution. This distribution, well studied by statisticians, goes by three names: (1) the **bell-shaped curve,** (2) the **normal curve,** and (3) the **Gaussian curve.** The third name is in honor of the nineteenth-century German mathematician Karl Friedrich Gauss, who first studied the curve's properties.

IQ Categories

IQ	Classification	Percent
130 and above	Very Superior	2.2
120-129	Superior	6.7
110-119	Bright Normal	16.1
90-109	Normal (or Average)	50.0
80-89	Dull Normal	16.1
70-79	Borderline	6.7
69 and below	Cognitively Deficient	2.2

IQ scores have been shown to be associated with such factors as morbidity and mortality, parental social status, and to a substantial degree, parental IQ. While the heritability of IQ has been investigated for nearly a century, controversy remains regarding the significance of heritability estimates, and the mechanisms of inheritance are still a matter of some debate.

Environmental factors play a role in determining IQ. Proper childhood nutrition appears critical for cognitive development; malnutrition can lower IQ. For example, iodine deficiency causes a fall, in average, of 12 IQ points.

Musical training in childhood may also increase IQ. Recent studies have shown that training in using one's working memory may increase IQ.

Intelligence tests. Many uses are made of intelligence tests. Students are given them periodically in school. Everyone who serves in the armed forces takes at least one such test. Many large businesses also give them to job applicants. In each case there is one objective--to find out how well a person is able to learn. There are two general types of intelligence tests: individual and group. The first is given to one person at a time. The second type is administered to a number of people at the same time.

Intelligence tests differ in the nature of the psychological theories underlying them and in the procedures employed in standardizing them. Therefore the results obtained by these examinations must be well understood and cautiously used.

Some tests are less successful than others in determining a person's basic intelligence. Their results may reflect, instead, the person's background and experience. Furthermore, the older the person, the more probable it is that his experience will affect the test results.

Intelligence test scores can be used in school to predict a child's performance in learning to read, in comprehending difficult reading matter or written directions, or in interpreting experiments. These tasks involve primarily verbal competence, the ability to generalize, or abstract reasoning. The scores are less useful for predicting success in such things as handwriting, shopwork, typing, or painting. Only qualified and trained persons should attempt to interpret the results of intelligence tests. Devices such as personality or achievement examinations are not reliable measures of intelligence though intellectual ability may be involved, to a certain extent, in answering the questions on these tests.

Testing Problems. Validity and reliability are important aspects of any kind of measurement and testing. Intelligence tests are—like gauges, clocks, and rulers—measuring instruments.

Consequently, before they can be used to measure intelligence with any degree of confidence, their validity and reliability must be assessed.

A **valid test** is one that measures what it is supposed to measure. If an intelligence test really does in fact measure intelligence, then it is valid. But how can one ascertain that the test is valid? Just because the questions in a test *seem* valid does not mean they actually are. This kind of validity is called **face validity,** meaning that the questions have a surface appearance of validity.

In order to evaluate the validity of an intelligence test, it is necessary to compare test scores with an outside criterion. An **outside criterion** is a measurement instrument that is independent of the intelligence test being evaluated. A useful outside criterion is grade point average. If intelligence means anything at all, then students with high IQ scores should have high grade point averages. In research, this relationship is evaluated with a statistical tool called the **correlation coefficient,** a measure of the magnitude of the relationship between two variables.

If the correlation between IQ scores and grade point average is high, then it seems reasonable to conclude that the intelligence test in question has validity. The higher the correlation coefficient, the more valid the test is considered to be. Other outside criteria that can be used are teacher ratings and evaluations made by parents.
A **reliable test** is one that gives stable, repeatable results.

An intelligence test has to be carefully assessed for reliability. This is also accomplished with the use of the correlation coefficient. Let's say that a 100-question test is split into two versions, Form A and Form B. The original 100 questions are randomly assigned to two forms. Form A has 50 questions. Form B has 50 questions. The two tests are administered, for example, one week apart to the same group of children. If one obtains an IQ score of 119 on Form A, he or she should obtain a score close to 119 on Form B. However, if a person obtains 119 on form A and 87 on Form B, the reliability of the test is in question. Comparing paired scores

for each child in the group, a high score on Form A should predict a high score on Form B. And a low score on Form A should predict a low score on Form B. If these predictions aren't obtained, then the test is not reliable.

The two related factors of validity and reliability generate four possibilities for any kind of measuring instrument. The instrument may be neither valid nor reliable, valid, but not reliable, reliable, but not valid, both valid and reliable. This fourth happy circumstance is the one we usually associate with rulers, clocks, and thermometers. These are the primary measuring instruments of physics. They are some of the reasons why it has such a high status as a science.

In psychology, both personality tests and intelligence tests are forced to deal with the mutual problems of validity and reliability. Fortunately, with the use of the correlation coefficient applied to large sets of scores, a reasonable level of validity and reliability can be obtained. The Stanford-Binet Intelligence Scale and the Wechsler Scales have been subjected to a substantial amount of scrutiny and evaluation. On the whole, they are considered to be both valid and reliable measuring instruments.

(*adopted from* "*Psychology: A Self-Teaching Guide*" *Frank J. Bruno*)

II. Retell the texts 2 and 3 using the plan below.

1. What method did Galton use in his attempt to measure intelligence? Was it effective? Why (not)?
2. What method was employed by Binet and Simon to measure intelligence?
3. What measure is associated with the Binet-Simon Scale?
4. What is the key feature of a longitudinal study?
5. Is there any correlation between high intelligence and prosperity?
6. What tests do the Wechsler Scales consist of?
7. What two kinds of intelligence are clearly identified in the Wechsler Scales?
8. Can you name abilities that characterize a) verbal intelligence b) performance intelligence?
9. What is meant by IQ?

10. What is the formula for IQ?

11. What are the two other names of the bell-shaped curve?

12. What factors are usually associated with IQ scores?

13. In what way can intelligence tests be used? What kind of information can they provide?

14. What are two big problems in any kind of testing?

15. What statistical tool is used to evaluate the magnitude of the relationship between two variables?

16. What kind of test can be regarded as a reliable one?

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

To provoke intense controversy; well-established scientific findings; to fall prey to smth; to have considerable influence on; to drop out of school; to some extent; to have an impact on; to think along conventional pathways; multiple intelligences; to pin smth down; to employ a hypothetical construct; to make an inference; cognitive competence; to get along with smb; underlying sources; emotional adjustment; to be part and parcel of smth; to conduct research on smth; mental flexibility; a longitudinal study; a clear-cut advantage; mental age; ratio; to get rid of smth; surface appearance of validity; grade point average; correlation coefficient; to stand for smth.

II. Give English equivalents to the following words and expressions from the text.

Согласно чему-либо; различные аспекты жизни; основная черта; невзирая на что-либо; общий фактор интеллекта; специфический фактор интеллекта; первичные умственные способности; скорость восприятия; познание; факторный анализ; абстрактное мышление; объем внимания; хронологический возраст; невербальный интеллект; коэффициент интеллекта; предмет спора; средний уровень интеллекта; ввиду того что.

III. Arrange the words in A and B in pairs of synonyms.

A) to comprehend; to provoke; to permeate; to emerge; to find out; to include; to conclude; to attempt; to fall prey to; to provide; to ascertain; to carry on; to stand for.

B) to clear up; to understand; to mean; to comprise; to decide; to try; to penetrate; to cause; to arise; to detect; to fall victim to; to continue; to give.

A) facet; impact (on); inference; correlation; advantage; capacity; validity; controversy; scrutiny; pattern; significance; collaboration; confidence.

B) influence on; conclusion; verity; ability; aspect; interaction; benefit; examination; importance; cooperation; certainty; dispute; exemplar.

A) conventional; unequivocal; illegitimate; appropriate; mutual; average; arbitrary.

B) illegal; proper; usual; random; reciprocal; definite; traditional.

IV. Combine the words in column A with those in B to make word combinations. Make up your own sentences using them.

A	B
average	test
intelligence	manner
individual	behavior
general	performance
valid	intelligence
statistical	ability
survival	instrument
human	quotient
measuring	analysis
appropriate	skills

V. Match each word or word combination on the left with the relative explanation on the right.

1. intelligence	a) the capacity to use language in order to express oneself, comprehend stories and understand other people.
2. factor analysis	b) a score, or similar quantitative index, used to denote a person's standing relative to age peers on a test of general ability.
3. convergent thinking	c) a cognitive style oriented towards logical problem-solving in a focused fashion.
4. IQ	d) the statistic or the number representing degree to which two or more variables are related.
5 g factor	e) the single common variance or factor that is common to different intelligence tests.
6. s factor	f) the extent to which a psychological test appears to measure what it is intended to measure.
7. verbal intelligence	g) the specific variables or most minute subclusters of intercorrelations or common variance found in different intelligence tests.
8. face validity	h) the general capacity to act purposefully, to think rationally and to deal effectively with new situations.
9. hypothetical construct	i) a statistical technique for identifying the number of factors involved in determining the variance of a set of a data.
10. correlation coefficient	j) any concept, the existence of which cannot be empirically demonstrated but which

nevertheless seems to be required on theoretical grounds or for pragmatic descriptive purposes.

VI. Read the text below. Use the word given in capitals at the end of some of the lines to form a word that fits in the gap in the same line.

All the human 1) _____ in which psychologists are	TRAIT
interested are the result of 2) _____ between	INTERACT
heredity and environment but how far intelligence is the	
result of 3) _____ and how far is the product of	INHERIT
environment is still riddled with complexity. Eysenck	
(1980) believed that in western country at present in a	
rough numerical 80% of all the factors 4) _____ to	CONTRIBUTION
individual differences of intelligence are heredity, 20%	
environment. Jensen (1969) whose hypothesis is known	
as Jensenism also insists heredity as the major	
determinant of 5) _____. Cyril Burt (1956)	INTELLIGENT
attributed 88% of intelligence to heredity and 12% to	
environmental	
6) _____. One of the arguments is that despite the	INFLUENCE
same environment in the orphanage, children bear	
different IQ due to heredity. Environmentalist (those	
who support nurture as the major determinant of	
intelligence), on the other hand argue that despite the	
same chromosomes and genes of identical twins, when	
separated and 7) _____ in different environment	REAR
their IQ can vary by 15 to 20%. 8) _____ also	STUDY
indicated that child's IQ is correlated with social class	
and the education of the parents, family size, birth order,	
rural-urban difference, etc.	

The importance of heredity and environment cannot be denied in intelligence. They are the two sides of a coin – the existence of one cannot be imagined in 9) _____ of other. Individual is the product of 46 chromosomes, which contains specific 10) _____ handed from both parents. The development of these characteristics must take in social 11) _____ where these characteristics are expressed. The heredity factors probably set the upper limit in development yet much depend on factors operating in the environment in deciding the direction of development, and the level finally reached. Heredity provides the 12) _____ for a person's IQ and environment interacts with this potential to create the final product.

ABSENT

CHARACTERISTIC

ENVIROMENTAL

POTENTIALITY

VII. Complete the table with the correct form of the word.

Verb	Noun	Noun	Adjective
distort		intelligence	
	definition		independent
measure		value	
conclude			difficult
	comprehension	possibility	
provide			important
	analysis	controversy	
	evaluation	environment	
divide			reliable
	inheritance	success	

VIII. Translate the following sentences into Russian.

1. Intelligence is one of the most talked about subjects within psychology, but there is no single definition of what exactly constitutes «Intelligence». Some scientists have suggested that intelligence is a general, single ability, while the others believe that intelligence includes a wide range of skills, abilities and talents.

2. The British researcher Charles Spearman described a concept referred to as general intelligence, or the g factor. He believed that intelligence is a general cognitive ability that could be measured and numerically expressed.

3. The American researcher Louis Thurstone instead of viewing intelligence as a general ability, offered a differing idea. He concluded that there were at least nine primary abilities such as verbal comprehension, word fluency.

4. Howard Gardner proposed that numerical expressions of human intelligence are not accurate. In his view, intelligences are multiple.

5. Intelligence quotient tests are a series of assessments used to determine the general intelligence of an individual in relation to other people of the same age.

6. The Wechsler test and the Stanford-Binet Intelligence Scales are the most standardized and widely used tests. The Stanford-Binet Intelligence Scale is especially useful in providing intellectual assessment in young children, adolescents, young adults.

7. The Stanford-Binet Intelligence Scales and the Wechsler Scales have been subjected to a considerable amount of scrutiny and evaluation. In general, they are believed to be both valid and reliable measuring instruments.

8. Despite the prevailing view that both heredity and environment influence intelligence, researchers have different opinions about how much each contributes and how they interact.

9. Intelligence tests differ in the nature of the psychological theories underlying them and in the procedures employed in standardizing them. That is why the results obtained by these examinations must be well interpreted and cautiously used.

10. Intelligence test scores can be used in school to predict a child's performance in learning to read, in comprehending difficult reading matter or written directions, or in interpreting experiments.

IX. Study the text and write down its short summary in English.

Что такое эмоциональный интеллект?

Под эмоциональным (чувственным) интеллектом в современной психологии понимают определенную способность человека воспринимать собственные чувства и откликаться на чувства других людей.

Для человека с хорошо развитым эмоциональным интеллектом характерны: высокий уровень самосознания, восприимчивость, умение управлять эмоциями и налаживать позитивные отношения с людьми.

Людей, которые всерьез поработали над повышением своего чувственного интеллекта, считают преуспевающими в различных сферах жизни. Они легко находят баланс в проявлении чувств. Для того чтобы этого достичь следует развивать в себе следующие позитивные эмоции: спокойное состояние, любовь, сопереживание, душевный подъем. И в то же время не нужно давать воли таким негативным проявлениям как: ярость, депрессивное состояние, эгоцентризм.

Сама идея эмоционального интеллекта выросла из понятия социального интеллекта, которое разрабатывалась такими авторами, как Эдуард Торндайк, Джон Гилфорд, Ганс Айзенк. В развитии науки об интеллекте вначале слишком много внимания уделялось информационным, «компьютерообразным» моделям интеллекта, а аффективная (чувственная) составляющая мышления отошла на дальний план. В сфере же социального интеллекта вырабатывался подход, понимающий познание человека не как «вычислительную машину», а как когнитивно (мыслительно) - эмоциональный процесс.

Другой предпосылкой повышенного внимания к эмоциональному интеллекту стала гуманистическая психология. После того, как Абрахам Маслоу в 50-х годах ввел понятие самоактуализации, в западной психологии

случился «гуманистический бум», который породил серьезные интегральные исследования личности, объединяющие когнитивные и аффективные стороны человеческой природы. Впоследствии один из исследователей гуманистической волны Питер Салоуэй в 1990 году выпустил статью под названием «Эмоциональный интеллект», которая, по признанию большинства в профессиональном сообществе, стала первой публикацией на эту тему. Он писал, что последние несколько десятков лет представления и об интеллекте, и об эмоциях коренным образом изменились. Разум перестал восприниматься как некая идеальная субстанция, эмоции как главный враг интеллекта, и оба явления приобрели реальное значение в повседневной человеческой жизни.

Американский исследователь Дэниел Гоулмен, работая с лидерами компаний, обнаружил, что EQ оказывает гораздо большее влияние на потенциал успеха личности (85%), чем умственный интеллект (15%). То есть, успех зависит от умения управлять своими эмоциями в гораздо большей степени, нежели от умственных способностей.

Ученый Митч Энтони развил идеи Гоулмена и успешно применил их в обучении торговых и страховых агентов, менеджеров по продажам, консультантов и других профессионалов, чей успех напрямую зависит от их способности эффективно общаться с другими людьми.

Таким образом, понятие «эмоциональный интеллект» активно используется не только в научных исследованиях и прикладной психологии, но и в бизнесе.

X. Make a presentation on INTELLIGENCE using all necessary vocabulary from the unit and your own knowledge of this theme.

QUIZ

For questions 1-8 choose the answer a-d which you think fits best according to the texts you studied:

1. One of the following *is not* a primary characteristic of intelligence:
    a. the ability to think clearly
    b. eccentric thinking
    c. convergent thinking
    d. functioning effectively in the environment
2. In behavioral science, intelligence has the status of
    a. a hypothetical construct
    b. a psychological atom
    c. a transcendental force
    d. an interim operant
3. What method was employed by Binet and Simon to measure intelligence?
    a. the biometric method
    b. the perceptual-motor method
    c. the performance method
    d. the physiological method
4. A research project that measures behavior over a span of time is called a
    a. discontinuity study
    b. gradient study
    c. longitudinal study
    d. continuity study
5. Which of the following is the correct formula for the intelligence quotient (IQ)?
    a. IQ = MA * CA + 100
    b. IQ = CA + MA * 3.14
    c. IQ = MA + MA/100
    d. IQ = MA/CA * 100
6. An IQ score in the range 110 to 119 is associated with what classification?
    a. very superior

b. superior

c. bright normal

d. normal (or average)

7. A test that measures what it is supposed to measure is said to be

a. consistent

b. reliable

c. valid

d. congruent

8. A test that gives stable, repeatable results is said to be

a. authentic

b. reliable

c. valid

d. systematic

GLOSSARY

Term	Transcription	Definition
Adjustment	[ə'ʤʌstmənt]	The behavioral process of balancing conflicting needs, or needs against obstacles in the environment.
Bell-Shaped curve	[bel-ʃeɪpt kɜːv]	Also referred to as a normal distribution or normal curve, a bell-shaped curve is a perfect mesokurtic curve where the mean, median, and mode are equal.
Chronological age	[ˌkrɔnə'lɔʤɪk((ə)l) eɪʤ]	The number of years a person has lived, used especially in psychometrics as a standard against which certain variables, such as behavior and intelligence, are measured.
Convergent	[kən'vɜːʤ(ə)nt	Logical and conventional thought leading to

thinking	'θɪŋkɪŋ]	a single answer
Correlation coefficient	[ˌkɔrə'leɪʃ(ə)n ˌkəuɪ'fɪʃ(ə)nt]	The statistic or number representing the degree to which two or more variables are related.
Environment	[ɪn'vaɪər(ə)nmənt]	Surroundings; conditions in which someone or something lives.
Face validity	[feɪs və'lɪdətɪ]	The degree to which test items appear to be directly related to the attribute the researcher wishes to measure.
Factor analysis	['fæktə ə'næləsɪs]	A statistical technique used to determine the number of components in a set of data. These components are then named according to their characteristics allowing a researcher to break down information into statistical groups.
General factor (g factor)	['ʤen(ə)r(ə)l 'fæktə]	General intelligence. Typically compared to s which represents specific intelligences. G is the culmination of all possible s's.
Heredity	[he'redətɪ]	The biological transmission of traits from parents to offspring.
Hypothetical construct	[ˌhaɪpə(u)'θetɪk(ə)l kən'strʌkt]	Any concept, the existence of which cannot be empirically demonstrated but which nevertheless seems to be required on theoretical grounds or for pragmatic descriptive purposes.
Intelligence	[ɪn'telɪʤ(ə)n(t)s]	The degree to which one can adapt to one's environment.
Intelligence	[ɪn'telɪʤ(ə)n(t)s	The scores achieved on psychological tests

quotient (IQ)	'kwəuʃ(ə)nt]	aimed at quantifying intellectual ability.
Intelligence test	[ɪn'telɪʤ(ə)n(t)s test]	A test that is supposed to measure intelligence.
Interaction	[ˌɪntər'ækʃ(ə)n]	Mutual action, reciprocal action; communication.
Kinesthetic intelligence	[ˌkɪn.iːsˈθet.ɪk ɪn'telɪʤ(ə)n(t)s]	The capacity to use one's hands or body skillfully.
Longitudinal study	[ˌlɔnʤɪ'tjuːdɪn(ə)l 'stʌdɪ]	A correlational research study that involves repeated observations of the same items over long periods of time — often many decades.
Mental age	['ment(ə)l eɪʤ]	The mental ability of a child, expressed in years and based on a comparison of his test performance with the performance of children with a range of chronological ages.
Reliability	[rɪˌlaɪə'bɪlətɪ]	The extent to which a test is repeatable and yields consistent scores.
S-factor	[es 'fæktə]	A collection of specific cognitive intellectual skills.
Test validity	[test və'lɪdətɪ]	Degree to which a test procedure accurately measures what it was designed to measure.
Verbal intelligence	['vɜːb(ə)l ɪn'telɪʤ(ə)n(t)s]	The ability to analyze information and solve problems using language-based reasoning.

UNIT 7

DEVELOPMENTAL PSYCHOLOGY: HOW CHILDREN BECOME ADULTS

Objectives

After completing this unit, you will be able to

- define developmental psychology;
- explain Freud's theory of psychosexual development;
- specify key features of Erikson's theory of psychosocial development;
- identify the four stages in Piaget's theory of cognitive development;
- identify the three levels in Kohlberg's theory of moral development;
- describe the two basic dimensions of parental style.

Pre-reading tasks

I. Practice the following for correct pronunciation:

Oedipus [ˈiːdipəs]

Erik Erikson [ˈerɪk ˈerɪksən]

Jean Piaget [ˈdʒaːn pjɑˈʒet]

Karen Horney [ˈ kəren ˈhɔrˌnaɪ]

Geneva [dʒəˈniːvə]

II. Before reading answer the following questions.

1. What does developmental psychology study?
2. What does child psychology deal with?
3. What is primary concern of adolescent psychology?
4. What justifies the study of developmental psychology?
5. What energy did Freud believe was the driving force behind behavior?
6. How many stages does each child pass through according to Freud?
7. What psychosexual stage is associated with infancy?
8. What term is sometimes used to describe a female child's sexual conflict during the latency stage?

9. What consequences can a fixation of libido result in?

While-reading tasks

III. Read the text and check if you were right.

7.1 Freud's Theory of Psychosexual Development

A familiar proverb states, "As the twig is bent, so grows the tree." Meant to apply as a metaphor to the raising of children, this saying contains within it an entire justification for the study of developmental psychology. Every adult was once a child, and the adult was shaped and formed by experiences during childhood. Psychologists as far apart in many of their assumptions and conclusions as Sigmund Freud and John Watson subscribed to the general view that in order to understand adult behavior it is necessary to study child behavior.

The contemporary approach to developmental psychology expands the concept of development well past childhood and adolescence. There are also developmental stages associated with adulthood.

Developmental psychology is the study of the growth and **maturation** of the individual over an extended span of time. **Child psychology** is a subset of developmental psychology. It concerns itself primarily with the study of the individual from birth to the beginning of adolescence (usually around the age of twelve or thirteen). **Adolescent psychology** is also a subset of developmental psychology. It concerns itself primarily with the study of the individual from the beginning of adolescence to its end (usually around the age of eighteen). Sometimes child psychology refers loosely to both child and adolescent psychology.

Freud's theory of development has been highly influential. First proposed about eighty years ago, it has had a large impact on the way in which both psychologists and parents have thought about sexual development in children. It has also influenced child-rearing practices.

According to Freud, there are five stages in psychosexual development. Psychosexual development refers to the development of a sexual identity, attitudes

toward sexual behavior, and emotional reactions to sexual stimuli. Sexual development, in Freud's view, is much more than biological. Identity, attitudes, and emotional reactions are psychological in nature. That is why Freud used the term psychosexual instead of simply sexual to refer to the kind of development he wanted to study.

The five stages of psychosexual development are: oral, anal, phallic, latency, and genital. In order to appreciate Freud's theory, it is necessary to introduce a concept he employed called libido. **Libido** is thought of as psychosexual energy, and Freud hypothesized that it is invested in different zones of the body during the various stages of psychosexual development. These zones, or areas, of the body are called the **erogenous zones**, and they are associated with sexual pleasure. The principal erogenous zones are the oral, anal, and genital areas of the body.

The **oral stage** lasts for about two years (**infancy**). During this stage the infant obtains a substantial amount of pleasure from sucking, biting, chewing, and so forth. The **anal stage** lasts for about one or two years (the stage of the toddler). During the anal stage the toddler obtains a substantial amount of pleasure from, at times, withholding fecal matter and, at other times, expelling it. Note that this stage coincides with the time at which most children are toilet trained.

The **phallic stage** lasts for about three years (the stage of the preschooler). During the phallic stage the preschooler, according to Freud, obtains a substantial amount of pleasure from self-stimulation of the phallus. The phallic stage ends at about the age of six.

The **latency stage** lasts for about six years. It begins at age six or seven and ends at age twelve or thirteen. In effect, it ends when **puberty** begins. The libido has migrated from the oral to the anal to the phallic zone. Now it goes underground and becomes, to surface appearance, dormant. The libido goes underground not because of a lack of biological maturation, but because of psychological conflict. Freud suggested that the child has a certain amount of dawning sexual desire and tends to make the parent of the opposite sex the focus of this desire. However, due to moral

development, guilt sets in and the libido goes into hiding. It is repressed to an unconscious level.

The emotional conflict associated with the child's forbidden wish to seek sexual expression with a parent is called the **Oedipus complex**. Freud was inspired to coin this term from his familiarity with the Greek tragedy Oedipus Rex (i.e., "Oedipus, the King") written by the dramatist Sophocles around 400 B.C. In the play, Oedipus inadvertently kills his own father and unknowingly marries his own mother. Writing in German in Austria, Freud used the term Oedipus complex to refer to either males or females. Later authors, writing in the United States, sometimes use the term Oedipus complex to refer to males and Electra complex to refer to females. (Electra is also a Greek play. Written by the dramatist Euripides, also around 400 B.C., it bears some resemblance to Oedipus Rex.)

The **genital stag**e begins at twelve or thirteen and continues throughout adulthood. With puberty, biological maturation can no longer be denied. The repression lifts and the individual becomes intensely conscious of sexual interest. Libido makes a final shift from the phallus to a more general interest in the opposite sex. In normal development, the individual transfers sexual interest away from the parent and toward potential partners who are not members of the family.

Freud's outline suggests that much can go wrong with sexual development. There can be too much excitation and arousal associated with one of the stages. Or, conversely, there can be too much inhibition, punishment, or emotional injury associated with one of the stages. Freud indicated that either too much excitation or too much inhibition can induce a **fixation** of libido, meaning the libido is to some extent "stuck" in one particular erogenous zone. According to Freud, such fixations may play a role in various problems and maladaptive behaviors, including overeating, constipation, pedophilia, exhibitionism, fetishism, and sexual dysfunctions.

Freud's theory is, as are all theories, a set of concepts, not a set of facts. Freud's theory has received its share of criticism. For example, research suggests that although self-stimulation of the phallus is relatively common in children, it is not, as Freud thought, a behavior pattern demonstrated by almost all children. The

psychoanalyst Karen Horney, one of Freud's advocates, rejected the biological sexuality of the Oedipus complex. Instead, Horney suggested that, for example, a male child is often jealous of the position of power and importance the father has with the mother. The male child has a forbidden wish to take the father's place, not so much as a sexual rival, but as a psychological one.

7.2. Erikson's Theory of Psychosocial Development

I. Read the text. Nine sentences have been removed from it. Choose from the sentences (A-J), the one which fits each gap (1-9). There is one sentence you don't need to use.

A. A certain amount of self-direction will emerge.

B. Informally, they can "be themselves" with each other, and do not have to put on an act.

C. The term social world is often used to refer to the constellation of other human beings in our environment—parents, siblings, teachers, friends, sweethearts and lovers, husbands and wives, and coworkers.

D. Although goals are not yet attained, they seem clearly desirable and possible.

E. By successfully forming loving relationships with other people, individuals are able to experience love and intimacy.

F. The child obtains no satisfaction from these activities, particularly if the child often obtains poor grades or receives too much parental criticism.

G. There is a growth in the ability to reflect and think.

H. Conversely, an infant with a sense of mistrust sometimes displays a failure to thrive syndrome.

I. There is relative peace of mind because the individual is convinced that his or her life was spent well, that it had meaning.

J. The adult with this trait contributes in some way to the welfare of others.

Erik Erikson (1902–1994) was personally trained by Freud, and maintained respect for Freud's theory. However, he expanded Freud's concept of psychosexual development to include psychosocial development. Psychosocial development refers to the characteristic ways in which the individual learns to respond to other people.

1.	

This is the world addressed by Erikson's theory. According to Erikson, there are eight stages in psychosocial development: trust versus mistrust, autonomy versus shame and guilt, initiative versus guilt, industry versus inferiority, identity versus role confusion, intimacy versus isolation, generativity versus self-absorption, and integrity versus despair.

In each stage the first attribute mentioned is a positive, or desirable, personality trait. The second attribute is a negative, or undesirable, personality trait. Trust, for example, is positive. Mistrust is negative. At each stage of development, the individual is challenged by life to form the positive trait. Trust versus mistrust is associated with infancy (birth to two years old). An infant with a sense of trust tends to thrive and expects good things to happen.

2.	

A lack of interest in the surrounding world and poor health, associated with mistrust, are characteristics of infantile depression. Affection, displayed in the form of loving attention, tends to foster the trait of trust. Lack of affection tends to foster the trait of mistrust. These last two statements concerning affection tend to apply to future stages as well. In general, affection and positive reinforcement tend to bring forth the positive traits.

Autonomy versus shame and doubt is associated with toddlerhood (two to three years old). A toddler with a sense of autonomy will be interested in exploring the immediate world and display an interest in novel stimulation.

3.	

Conversely, a toddler with a sense of shame and doubt will tend to hold back, to seem shy, and to lack self-confidence.

Initiative versus guilt is associated with the preschool period (three to six years old). A preschooler with a sense of initiative will be likely to start a project and see it through to completion. Conversely, a preschooler with a sense of guilt is hesitant, does not seek challenges, and holds back when an opportunity for self-expression presents itself.

Industry versus inferiority is associated with middle childhood (six to twelve years old). A child with a sense of industry will show an interest in school, study, complete homework, agree to do reasonable chores, and in general display responsible behavior. A child with a sense of inferiority will avoid studying, homework, and chores.

4.	

Identity versus role confusion is associated with adolescence (twelve to eighteen years old). An adolescent with an identity has a sense of direction in life. He or she already thinks in terms of a particular vocational area, has fairly well-defined plans for the future, and a high level of self-esteem.

5.	

Conversely, an adolescent suffering from role confusion imagines no particular pathway in life and dreams of no well- shaped future. On the contrary, the future seems obscure and formless.

Intimacy versus isolation is associated with young adulthood. This starts when adolescence is over, usually around the age of eighteen. However, in practice, young adulthood may be deferred for a number of years until an identity has been attained. The present stage and the future stages to be discussed will not be identified with particular years. A young adult with the capacity for intimacy is able to form a close emotional bond with another person, often a marriage partner. Intimacy exists when two people genuinely recognize the importance of each other's thoughts and feelings.

6.	

Conversely, isolation exists when an individual treats another individual like a thing, an object to be manipulated and taken advantage of. The term I-thou relationship is

sometimes used to characterize intimacy; the term I-it relationship is used to characterize isolation.

Generativity versus self-absorption is associated with adulthood. An adult with the trait of generativity is capable of productive work. Usually he or she will spend many years employed in a vocation or a well-defined social role (e.g., parent). Generativity is linked to giving something of value to the world.

7.	

Conversely, an adult with the trait of self-absorption is concerned only with his or her own welfare. Taking, not giving, is the theme of the person's life. He or she is, in essence, a sort of parasite.

Integrity versus despair is associated with old age. An older person with the trait of integrity can face approaching death with a certain amount of acceptance.

8.	

An older person in a state of despair has a sense of desperation as life draws to its inevitable end. There is very little peace of mind because the individual is thinking that he or she needs a second chance, an opportunity to get life right.

Although the individual has very little control over the first few stages of life, with adolescence and adulthood there is greater self-consciousness.

9.	

Consequently, the individual bears some responsibility for the self-fashioning of the later stages.

II. Answer the questions. Then, using your answers, retell the text.

1. How did Erikson develop Freud's theory of psychosexual development?
2. What stages in psychosocial development did Erikson point out?
3. What dilemma has an individual to resolve in each stage of development?
4. What is the growth of trust during the first stage based on?
5. What are the characteristics of infantile depression?
6. What does the second stage focus on?

7. What period of life does the fourth stage cover?

8. What personality trait should one possess to be able to work productively?

9. What kind of person is concerned only with his or her own welfare?

7.3. Piaget's Theory of Cognitive Development

I. You are going to read about the four stages of Piaget's theory which deals with cognitive development of children. Correlate each of the stages with its right summary (a-d).

Jean Piaget (1896–1980), often recognized as the foremost child psychologist of the twentieth century, made the growth of the child's ability to think his particular domain of investigation.

Piaget, working primarily at Geneva University in Switzerland, began his investigations into the workings of the child's mind because of an interest in epistemology. Epistemology, a branch of philosophy, is the study of knowing. Piaget wanted to discover how we come to know what we know. Or, more accurately, he wanted to discover how we come to think we know what we think we know.

The method that Piaget used to study the child's mind is called the phenomenological method. The phenomenological method is characterized by asking a child a series of carefully worded questions that direct the child's attention to particular details of the child's immediate world. The child's responses reveal the way in which the he or she thinks about the world. Piaget's investigations suggest that there are four stages of cognitive development, the development of the way in which the child thinks. Informally, cognitive development may be thought of as the "growth of the mind."

According to Piaget, there are four stages of cognitive development: the sensorimotor stage, the preoperational stage, the concrete operations stage, and the formal operations stage.

The **sensorimotor stage** is associated with infancy (birth to two years old). During this stage the infant has consciousness, but not self-consciousness. He or she

is, of course, aware of the environment. There are reflexes. A stimulus induces a patterned, predictable motor response. This provides a clue to the term sensorimotor and why Piaget chose it. The infant senses the world and, without reflection or analysis, acts in response to his or her impressions. In the older infant there is even a certain amount of intentional behavior. But the infant does not know that he or she exists in the same way that an older child or an adult knows that he or she exists. There is no way to establish these assertions beyond doubt, because a verbal interview with an infant is impossible. However, an infant acts as if self-consciousness is absent.

The **preoperational stage** is associated with toddlerhood and the preschool age (two to seven years old). The term preoperational is used to suggest that during this stage the child has not yet grasped the concept of cause and effect. Instead, the child tends to think in magical terms. Magical thinking is characterized by an absence of the recognition of the importance of the laws of nature. Two additional characteristics of the preoperational stage are anthropomorphic thinking and egocentrism. Anthropomorphic thinking is characterized by a tendency to explain natural events in terms of human behavior. Consequently, leaves turn various colors in the fall because Jack Frost paints them. The huffing and puffing of an invisible giant is the cause of a windy day.

Egocentrism is a tendency to perceive oneself as existing at the center of the universe. Everything revolves around the self.

The **concrete operations stage** is associated with middle childhood (seven to twelve years old). The child at this stage can think in terms of cause and effect. However, most of the thinking is "concrete," meaning that cognitive processes at this stage deal well with what can be seen or otherwise experienced, not with abstractions. During the stage of concrete operations, children are usually interested in how clocks work, how measurements are made, and why this causes that to happen. They often like to assemble things. A game such as Monopoly, with its play money, property deeds, and tokens, is attractive.

The **formal operations stage** is associated with adolescence and adulthood. (Adolescence begins at twelve or thirteen years old). The formal operations stage is characterized by the ability to think in abstract terms. The adolescent and adult can understand algebra. Subjects such as philosophy, with its various viewpoints on life, become accessible. Not only thinking, but thinking about thinking is possible. This is called metathought. Formal operational thought makes it possible to use both inductive and deductive logic. The adult can reflect, analyze, and rethink ideas and viewpoints. This kind of thought opens up avenues of mental flexibility not available to children.

Piaget's theory presents a blueprint for cognitive development that captures the spectrum of thinking from its primitive beginning to its most sophisticated level.

a) Children in this stage of cognitive development don't yet understand logic, can't mentally manipulate information and are unable to take the point of view of other people.

b) During this period, children develop the ability to think about abstract concepts. Skills like deductive reasoning, systematic planning also emerge during this stage.

c) The child's knowledge of the world is limited to his sensory perceptions and motor activities.

d) Children begin thinking logically about concrete events, but have difficulty understanding abstract concepts.

(*adopted from books.google.ru/books?isbn=0471323624).*

II. Look through the text again and give extensive answers to the questions.

1. What is epistemology?
2. What was the subject of Piaget's investigation?
3. How did the phenomenological method work?
4. What did Piaget understand under «cognitive development»?
5. What stages of cognitive development did he suggest?
6. What is the sensorimotor stage centered on?

7. How long does the preoperational stage last for? Can you give any hallmarks of this stage?
8. What kind of thinking is characterized by a tendency to explain natural events in terms of human behavior?
9. What is egocentrism?
10. What ability does a child gain during the concrete operations stage?
11. What is implied be term «metathought»?

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

To contain an entire justification for smth; an extended span of time; child-rearing practices; to bear some resemblance to; adolescence; adulthood; maladaptive behavior; personality trait; to display a failure to thrive syndrome; to bring forth; to attain a goal; to suffer from; to form a close emotional bond with; to put on an act; to take advantage of; to face with acceptance; peace of mind; parental criticism; a concept of cause and effect; to concern oneself with smth; to hypothesize; mental flexibility; biological maturation; puberty; beyond reasonable doubt; viewpoints on; a clue.

II. Give English equivalents to the following words and expressions from the text.

Психология развития; подростковая психология; современный подход к; младенчество; эмоциональная травма; форма поведения; инфантильная депрессия; чувство неполноценности; чувство собственного достоинства; когнитивное развитие; самосознание; область исследований; самопоглощение; доля критицизма; период сенсомоторного интеллекта; период конкретных операций; период формальных операций.

III. Arrange the words in A and B in pairs of synonyms.

A) to expand; to propose; to appreciate; to last for; to coincide with; to seek; to coin; to deny; to induce; to reject; to thrive; to foster; to convince; to grasp; to reveal.

B) to persuade; to continue; to suggest; to cause; to display; to seize; to enlarge; to negate; to prosper; to encourage; to refuse; to look for; to value; to agree; to create.

A) inhibition; despair; reinforcement; clue; speculation; fall; welfare; rival; affection; adolescence; trust; stimuli; infant; opportunity; desire; failure.

B) faith; hopelessness; competitor; repression; wish; attachment; prosperity; fiasco; strengthening; assumption; autumn; incentives; child; chance; youth; key.

A) entire; inadvertently; inborn; dormant; novel; inevitable; hesitant; sophisticated; brute; fetal; obscure.

B) latent; new; cruel; faint; full; unwilling; embryonic; complex; accidentally; unavoidable; innate.

IV. Combine the words in column A with those in B to make word combinations. Make up your own sentences using them.

A	B
1. adult	a) maturation
2. emotional	b) flexibility
3. moral	c) underground
4. poor	d) psychology
5. behavior	e) development
6. social	f) bond
7. biological	g) pattern
8. hold	h) world
9. mental	i) back
10. go	j) health

V. Match the key terms with their explanations.

1. maturation	a) the first stage of cognitive development where a child's primary way of learning about the world is through the senses and movement.
2. egocentrism	b) changes to the natural process of ageing as determined by one's genetics.
3. formal operational stage	c) a term used in psychoanalysis to describe the energy created by sexual instincts.
4. latency stage	d) the period between the onset of puberty and attainment of adulthood.
5. cognitive development	e) one of the stages of cognitive development where thinking becomes more abstract.
6. developmental psychology	f) the tendency of children to cognize their environment only in terms of their own point of view.
7. libido	g) the period of psychosexual development during which sexual interests are sublimated into other activities.
8. sensorimotor stage	h) a scientific study of systematic changes that occur in human being over the course of their lifespan.
9. pre-operational stage	i) a field of study in psychology focusing on a child's development in terms of information processing, language learning, perceptual skills and other aspects of brain development.
10. adolescence	j) one of the stages of cognitive development during which a child develops object permanency and language.

VI. Complete the text with the words from the box.

speculation	accordance	inborn	hypothesis	acquire
reinforcement	applied	assumed	relatively	theories
principal	conduct	clear	fall	whims	wrong

Lawrence Kohlberg, a developmental psychologist associated with Harvard University, has drawn from Piaget's theory of cognitive development and 1) _____ it to moral development. Moral development is the development of the individual's sense of right and 2) _____. A high level of moral development is built on a foundation of cognitive development. But, of course, more is involved.

Prior to Kohlberg's actual research with subjects, 3) _____ of moral development were based largely on 4) _____. The philosophers Plato and Immanuel Kant believed that the moral sense is 5) _____, that it is a given of the human mind. On the other hand, the philosophers Aristotle and John Locke 6) _____ that moral development requires learning and experience. Kohlberg's approach tends to favor the learning 7) _____. Human beings 8) _____ a moral sense by learning to think clearly, by the example of role models, and by social 9) _____.

According to Kohlberg, there are three 10) _____ levels of moral development: the premoral level, the conventional level, and the principled level.

The premoral level is associated with early childhood. The theme of this level is power orientation principal, meaning that to a child thinking at this level, "might makes right". The parents are seen as "right" because they are bigger and stronger than the child.

The conventional level is associated with late childhood and adolescence. Also, many, probably most, adults continue to operate at the conventional level, never

progressing to the principled level. The theme of the conventional level is “law and order”. Right is right because human beings have codes of 11) _____ and written laws.

The principled level is associated with a 12) _____ small percentage of adults. These are people who think for themselves about what is right and wrong. They are not chaotic in their thought processes. They are logical and 13) _____ sighted. In certain cases, they may decide that a law or a group of laws are unjust, and they may rebel. The founding fathers of the United States, men such as George Washington and Thomas Jefferson, fall in this last category. Saints, great leaders, and prophets also 14) _____ in the principled category.

It is clear that not all adults outgrow even the first level, the premoral level. Dictators who rule by brute force, who punish in 15) _____ with their personal 16) _____, operate at the premoral level.

VII. Complete the table with the correct form of the word.

Verb	Noun	Noun	Adjective
	satisfaction		developmental
introduce		maturation	
	behavior		influential
invest		flexibility	
	focus		conscious
associate		cognition	
	opposite		absent
fail		desire	
	completion		intentional
identify		injury	

VIII. Translate the following sentences into Russian paying attention to psychological terms.

1. Developmental psychology is the study of psychological changes that occur in human beings as they grow. Child and adolescent psychology are its subdivisions.

2. Freud developed a model which he believed to be a normal development of the child and called it «psychosexual or libido development».

3. Libido was Freud's word for psychic and sexual energy. How libido is expressed depends on the stage of development. But in each stage of development there are frustrations. If those frustrations are not successfully dealt with, then the libido will be tied to that stage of development more than it should.

4. Erikson's psychosocial theory focuses on how social world influences a person. Society is regarded as a force that encourages the development of the self.

5. Erikson outlined eight stages in this development. In each stage people experience a conflict, which turns to be a critical moment when specific problems need to be solved.

6. Piaget's view of how children's minds work and develop has been enormously influential, particularly in educational theory. His particular insight was the role of maturation in children's increasing capacity to understand their world.

7. He claimed that human development occurs consequently, through the following stages: sensorimotor stage, preoperational stage and concrete operations stage.

8. He proposed that children's thinking does not develop entirely smoothly: instead, there are certain points at which it "takes off" and moves into completely new areas and capabilities. He saw these transitions as taking place at about 18 months, 7 years and 11 or 12 years.

9. Piaget's focus on qualitative development had an important impact on education. While Piaget did not specifically apply his theory to education, many educational programs are built upon the belief that children should be taught at the level for which they are developmentally prepared.

10. Much of the criticism of Piaget's work is in regards to his research methods. A major source of inspiration for the theory was Piaget's observations of his own three children. In addition to this, the other children in Piaget's small research sample were all from well-educated professionals of high socio-economic status. Because of this unrepresentative sample, it is difficult to generalize his findings to a larger population.

IX. Render the text into English.

Современные психоаналитики о развитии и воспитании детей

Познание детской психики с помощью психоанализа и игровой техники расширило представления об эмоциональной жизни маленьких детей, углубило понимание самых ранних стадий развития и их долговременного вклада в нормальное или патологическое развитие психики во взрослые периоды жизни.

Детский психоаналитик Дж.Боулби рассматривал прежде всего эмоциональное развитие детей. Его теория привязанности основана на синтезе современных биологических (этологических) и психологических данных и традиционных психоаналитических представлений о развитии.

Ключевая идея теории Боулби состоит в том, что мать важна не только потому, что она удовлетворяет первичные органические потребности ребенка, в частности утоляет голод, но главное — она создает ребенку первое чувство привязанности. В первые месяцы жизни крики и улыбки ребенка гарантируют ему материнскую заботу, внешнюю безопасность и защищенность. Эмоционально защищенный ребенок более эффективен в своем исследовательском поведении, ему открыты пути здорового психического развития. Разнообразные нарушения первичной эмоциональной связи между матерью и ребенком, «расстройства привязанности» создают риск возникновения личностных проблем и психических заболеваний (например, депрессивных состояний).

Идеи Боулби сразу нашли применение и начиная с 1950-х гг. привели к практической реорганизации системы больничного режима для маленьких детей, позволившей не отрывать ребенка от матери.

Р. Шпиц подчеркивает, что взаимоотношения между ребенком и матерью в самом раннем возрасте оказывают влияние на формирование его личности в последующем. Очень показательными для психоаналитического подхода к исследованию и коррекции развития в детском возрасте являются такие понятия, как «привязанность», «безопасность», установление близких взаимоотношений детей и взрослых, создание условий для налаживания взаимодействия детей и родителей в первые часы после рождения.

Широкую известность получила позиция Э. Фромма по вопросу о роли матери и отца в воспитании детей, об особенностях материнской и отцовской любви.

Материнская безусловна: ребенок любим просто за то, что он есть. Сама мать должна иметь веру в жизнь, не быть тревожной, только тогда она сможет передать ребенку ощущение безопасности. «В идеальном случае материнская любовь не пытается помешать ребенку взрослеть, не пытается назначить награду за беспомощность». Отцовская любовь — по большей части это обусловленная любовь, ее нужно и, что важно, можно заслужить — достижениями, выполнением обязанностей, порядком в делах, соответствием ожиданиям, дисциплиной. Зрелый человек строит образы родителей внутри себя: «В этом развитии от материнско - центрированной к отцовско - центрированной привязанности и их окончательном синтезе состоит основа духовного здоровья и зрелости».

Представитель психоаналитической педагогики К.Бютнер обращает внимание на то, что традиционная для психоанализа сфера семейного воспитания дополняется и даже вступает в конкурентные, противоречивые отношения с системой институционального, внесемейного воспитания. Влияние видеофильмов, мультфильмов, игр, индустрии игрушек на внутренний мир детей постоянно растет, и часто оно может быть оценено резко негативно.

Представительница Парижской школы фрейдизма Ф.Дольто рассматривает прохождение детьми символических этапов становления личности. В своих книгах «На стороне ребенка», «На стороне подростка» она анализирует с психоаналитической точки зрения многочисленные проблемы: характер воспоминаний детства, самочувствие ребенка в детском саду и школе, отношение к деньгам и наказаниям, воспитание в неполной семье, норма и патология родительско - детских отношений, зачатие в пробирке.

Детский психоанализ оказал немалое влияние на организацию работы с детьми в образовательной и социальной сферах, на работу с родителями. На его основе созданы многочисленные программы раннего вмешательства, варианты терапии взаимоотношений «родители — ребенок», «отец — мать — ребенок» для родителей и детей «групп риска». В настоящее время существует немало центров психоаналитической терапии детей. Цели современной длительной психоаналитической терапии ребенка формулируются в весьма широком диапазоне: от устранения невротических симптомов, облегчения бремени тревоги, улучшения поведения до изменений в организации умственной деятельности или возобновления динамичной эволюции психических процессов развития.

QUIZ

For questions 1-9 choose the answer a-d which you think fits best according to the texts you studied:

1. According to Freud’s usage, psychosexual energy is referred to as
    a. libido
    b. erotic ambivalence
    c. metabolism
    d. genital potency
2. The Oedipus complex is associated with what psychosexual stage?
    a. the oral stage
    b. the anal stage

c. the genital stage

d. the latency stage

3. What psychosexual stage is associated with infancy?

a. the oral stage

b. the anal stage

c. the genital stage

d. the latency stage

4. A toddler with a particular positive psychosocial trait will be interested in exploring the immediate world and display an interest in novel stimulation. What is this trait?

a. autonomy

b. identity

c. intimacy

d. generativity

5. An older person with a particular positive psychosocial trait can face approaching death with a certain amount of acceptance. What is this trait?

a. generativity

b. isolation

c. identity

d. integrity

6. What method did Piaget use to study the child's mind?

a. the experimental method

b. the survey method

c. the phenomenological method

d. the correlational method

7. Magical thinking, anthropomorphic thinking, and egocentrism are associated with what stage of cognitive development?

a. trust versus mistrust

b. the sensorimotor stage

c. the formal operations stage

d. the preoperational stage

8. What stage of cognitive development is associated with the ability to employ abstract reasoning?

a. the formal operations stage

b. the concrete operations stage

c. the sensorimotor stage

d. the preoperational stage

9. What level of moral development is associated with a law and order orientation?

a. the premoral level

b. the preconventional level

c. the conventional level

d. the principled level

GLOSSARY

Term	Transcription	Definition
Adolescent psychology	[ˌæd(ə)'les(ə)nt saɪ'kɔlədʒɪ]	Field of psychology concerned with the normal and abnormal behavior of adolescents.
Anal stage	['eɪn(ə)l steɪdʒ]	Freud's second stage of psychosexual development where the primary sexual focus is on the elimination or holding onto feces. The stage is often thought of as representing a child's ability to control his or her own world.
Arousal	[ə'rauzəl]	Being alert, physically and mentally.
Attention	[ə'ten(t)ʃ(ə)n]	A state of focused awareness on a subset of the available perceptual information.
Child	[ʧaɪld	One of the many branches of psychology that

psychology	saɪ'kɔlədʒɪ]	focuses on the mind and behavior of children from prenatal development through adolescence.
Cognitive development	['kɔgnətɪv dɪ'veləpmənt]	A field of study in neuroscience and psychology focusing on a child's development in terms of information processing, conceptual resources, perceptual skill, language learning, and other aspects of brain development and cognitive psychology compared to an adult's point of view.
Concrete operations stage	['kɔŋkriːt ˌɔp(ə)'reɪʃ(ə)ns steɪdʒ]	According to Piaget, the stage of cognitive development where a child between the ages of 7 and 12 begins thinking more globally and outside of the self but is still deficient in abstract thought.
Developmental psychology	[dɪˌveləp'ment(ə)l saɪ'kɔlədʒɪ]	The area of psychology focused on how children grow psychologically to become who they are as adults.
Egocentrism	[ˌɛgə(ʊ)ˈsɛntrɪ,zəm]	The inability of a young child at the preoperational stage to take the perspective of another person.
Electra complex	[ɪˈlɛktrə 'kɔmpleks]	In Neo-Freudian psychology, the Electra complex, as proposed by Carl Gustav Jung, is a girl’s psychosexual competition with mother for possession of father.
Epistemology	[ɪˌpɪstə'mɔlədʒɪ]	The study of knowledge and justified belief.
Erogenous zones	[ɪ'rɔdʒɪnəs zəuns]	Areas of the skin surface that are especially sensitive to stimulation and that give rise to erotic or sexual sensations.
Fixation	[fɪk'seɪʃ(ə)n]	A state in which a person remains attached to objects or activities more appropriate for an

		earlier stage of psychosexual development.
Formal operations stage	['fɔːm(ə)l ˌɔp(ə)'reɪʃ(ə)n steɪʤ]	Final stage of cognitive development where thinking becomes more abstract.
Genital stage	['ʤenɪtl steɪʤ]	Freud's final stage of psychosexual development where healthy sexual development is defined as attraction to a same aged, opposite sexed peer.
Infancy	['ɪnfən(t)sɪ]	The early stage of growth or development.
Latency stage	['leɪt(ə)nsɪ steɪʤ]	Freud's fourth stage of psychosexual development where sexuality is repressed in the unconscious and children focus on identifying with their same sex parent and interact with same sex peers.
Libido	[lɪ'biːdəu]	Sigmund Freud’s terminology of sexual energy or sexual drive.
Maturation	[ˌmæʧu'reɪʃ(ə)n]	The continuing influence of heredity throughout development; the age-related physical and behavioral changes characteristic of a species.
Oedipus complex	['iːdɪpəs 'kɔmpleks]	In psychoanalysis, a subconscious sexual desire in a child, especially a male child, for the parent of the opposite sex, usually accompanied by hostility to the parent of the same sex.
Oral stage	['ɔːr(ə)l steɪʤ]	Freud's first stage of psychosexual development where the primary sexual focus is on the mouth through sucking, tasting, and verbalizing.
Phallic stage	['fælɪk steɪʤ]	Freud's third stage of psychosexual development where the primary sexual focus is on symbolism of the genitals.

Preoperational stage	[priˌɔp(ə)'reɪʃ(ə)n(ə)l steɪʤ]	Piaget's second stage of cognitive development in which a child develops objects permanency and language.
Puberty	['pjuːbətɪ]	The time period between childhood and adulthood when physical changes allow for reproduction, i.e. making babies.
Self-consciousness	[self-'kɔnʃəsnəs]	The top level of consciousness; cognizance of the autobiographical character of personally experienced events.
Sensorimotor stage	[ˌsɛns(ə)rɪˈməʊtə steɪʤ]	The first stage in Piaget's stages of cognitive development where a child's primary way of learning about the world is through the senses and movement.
Stimulus	['stɪmjələs]	Anything in the environment to which one responds.

UNIT 8

PERSONALITY: PSYCHOLOGICAL FACTORS THAT MAKE YOU AN INDIVIDUAL

Objectives

After completing this unit, you will be able to

- define personality;
- describe several type-trait theories;
- explain key aspects of Freud's theory of personality;
- explain key aspects of neo-Freudian theories of personality;
- understand the role that consciousness plays in the self-shaping of the personality;
- describe three important personality tests.

Pre-reading tasks

I. Discuss the following questions in pairs.

1. What images spring to mind when you hear the word «personality»?
2. How would you describe your personality?
3. Name the forces that shape personality.
4. What is the most attractive personality trait a person can have?
5. Can you find out things about someone's personality from their star sign or blood group?
6. What change would you like to make to your personality and why?

II. Practice the following proper names for correct pronunciation:

Aristotle [ˈæristɔtl]

Marie Curie [məˈri: kjʊˈri:]

Hippocrates [hɪˈpɑkrəˌti:z]

Carl Jung [ˈkarl ˈjʊŋ]

Raymond B. Cattell [ˈreiməndˈbi: ˈkətel]

Alfred Adler [ˈælfrəd ˈɑdlər]

Karen Horney [ˈ kəren ˈhɔrˌnaɪ]

While-reading tasks

III. Read the text with a dictionary if necessary.

8.1. How Does Your Personality Affect Your Behavior?

Your personality plays a role in almost everything that you do. If you are familiar with someone's personality, you can often predict how he or she will be likely to act in a particular situation.

A workable definition of **personality** is that it is the constellation of traits unique to the individual. Your personality is like a psychological fingerprint. Only you have your particular personality. The word **trait**, as used above, refers to your relatively stable behavioral dispositions.

Although physical appearance can be a basis for interpersonal attraction, it is also true that one person will often want to get to know another person because of that person's personality. Like another's face or figure, we often find another's personality appealing or unappealing. Relationships, including marriages, often stand or fall on the basis of the way in which two people react to each other's personalities. These are some of the reasons why psychologists believe that the study of personality is important.

Type-trait theories. The philosopher Aristotle was thought to have wisdom. The conqueror Attila the Hun is remembered for his **aggressiveness**. The physicist Marie Curie was recognized to be unusually persistent. In Charles Dickens's A Christmas Carol, the character Scrooge is known for being stingy. In Margaret Mitchell's Gone With the Wind, Scarlett O'Hara is admired for her courage.

Wisdom, aggressiveness, persistence, stinginess, and courage are all traits of personality. In psychology, type-trait theories are attempts to provide consistent descriptions of personality. Psychologists presenting these theories, theories based on

observations and personality tests, are somewhat like mapmakers. Mapmakers may or may not understand the geological processes that create islands, continents, and mountains, but they try to present an accurate picture of what they find. Similarly, type-trait theorists may or may not comprehend the underlying processes that account for a trait or a set of traits, but they try to present an accurate picture of what they discover.

A very early type-trait theory was the one presented by Hippocrates, who was often identified as the father of medicine, about 400 B.C. According to Hippocrates, there are four personality types: sanguine, choleric, melancholic, and phlegmatic. The dominant trait of a sanguine personality is optimism. The dominant trait of a choleric personality is irritability. The dominant trait of a **melancholic** personality is depression. The dominant trait of a **phlegmatic** personality is sluggishness.

Hippocrates believed that one's personality is influenced by the balance of humors in the body. In physiology, the word humor refers to any functioning fluid of the body. Hippocrates asserted that a person with a **sanguine** personality has a lot of the humor blood. A person with a **choleric** personality has a lot of the humor yellow bile. A person with a melancholic personality has a lot of the humor black bile. A person with a phlegmatic personality has a lot of the humor phlegm.

Hippocrates's humor theory of personality is not taken seriously today. However, he is credited for being a fairly astute observer of human behavior. The four types, if not entirely accurate, do have some interest and value. Present-day usage such as "being in a good humor" can be traced back to the thinking of Hippocrates.

Another classical personality theory, one that bears some resemblance to Hippocrates's theory, was proposed about sixty years ago by the physiologist William H. Sheldon. Sheldon suggested that there are three basic body types: endomorph, mesomorph, and ectomorph. The body types are innately determined during the stage of the embryo. The adult's body is shaped by varying amounts of endoderm, mesoderm, and ectoderm. An endomorph tends to have a soft, flabby body. The endomorph will tend to be placid and lazy and to seek fun for fun's sake.

A mesomorph tends to have a firm, muscular body. The mesomorph will tend to be assertive and ambitious and to seek action for action's sake. An ectomorph tends to have a thin, frail body. The ectomorph will tend to be shy, tense, and nervous.

Sheldon recognized that many, perhaps most, people are not pure types. Consequently, in his research he rated subjects on the three dimensions of the body and assigned them a somatotype. The somatotype is a profile that reflects an individual's particular pattern of body tissue. Although Sheldon collected quite a bit of data to support his approach to the study of personality, research by others has provided only weak support for his viewpoint.

One of the most famous type-trait theories of personality is the one proposed in the early part of the twentieth century by the Swiss psychiatrist Carl Jung, one of Freud's early associates. Jung said that two basic personality types are the introvert and the extrovert. The **introvert** favors behaviors such as thinking, reading, reflecting, meditating, creative writing, remembering, composing music, daydreaming, and spending time alone. These behaviors are associated with a general trait called introversion. As Jung explained it, introversion is characterized by a flow of libido toward the inner world. (Jung used the term libido to mean psychological energy).

The **extravert** (also, extrovert) favors behaviors such as talking, going to motion pictures, taking trips, seeking financial success, exploration, being physically active, and spending time with a fairly large circle of friends. These behaviors are associated with a general trait called extraversion. Extraversion is characterized by a flow of libido toward the outer world.

Jung recognized that introverts and extraverts reflect a bipolar trait, a trait that exists on a continuum with logical opposites. The trait, correctly named, is introversion-extraversion.

A given person is not necessarily a pure type. The **ambivert** is an individual who displays a mixture of both introverted and extraverted behaviors.

Jung believed that the tendency to be an introvert or an extravert is primarily inborn, a part of one's biologically determined disposition. Jung himself was an

introvert. This is reflected in the title of his autobiography, Memories, Dreams, and Reflections. By Jung's own admission, the inner life was more important to him than the outer life.

A well-regarded, contemporary type-trait theory is the researcher Raymond B. Cattell's sixteen personality factor theory. Based on his statistical analysis of various personality tests, Cattell concluded that there are sixteen factors, or clusters of related bipolar traits, that describe the human personality. One of the bipolar traits, or factors, is reserved-outgoing, which corresponds closely to Jung's introversion-extraversion trait.

A second bipolar trait is affected by feelings–emotionally stable. A person manifesting the first extreme of the trait will tend to be deeply hurt by a criticism, become depressed easily, and experience emotional states vividly. A person manifesting the opposite extreme of the trait will seldom experience prolonged states of anger, anxiety, or depression. To such a person, life is lived in a relatively placid manner.

A third bipolar trait is humble-assertive. A person manifesting the first extreme of the trait will tend to be passive, easily controlled by others, and lack self-confidence in social relationships. A person manifesting the opposite extreme of the trait will tend to be a leader, influence others, and have quite a bit of self-confidence in social relationships. Cattell's map of the human personality continues in this manner until, as already indicated, sixteen bipolar traits are identified.

IV. Look through the text again and answer the questions.

1. What is personality?
2. What are type-trait theories? What are they based on?
3. What personality types did Hippocrates propose?
4. What traits dominate each type of personality according to Hippocrates?
5. From Sheldon's point of view what body type tends to be thin and frail?
6. How can one define a somatotype?
7. What personality types did Jung suggest?

8. Which trait is characterized by a flow of psychological energy toward the outer world?

9. How do you refer to a person who displays a mixture of both introverted and extraverted behaviors?

10. How many factors describe the human personality according to Cattell's research?

8.2. Freud's Theory: The Three Faces of You

I. Read the text and decide if the following statements are true or false. Change the sentences so they are true.

1. According to Freud, there are four parts to the human personality: the id, the ego, the superego and the collective unconscious.
2. The ego deals with pleasure principle.
3. The ego ideal is associated with long-term goals and reflects the wishes of the parents.
4. Ego defense mechanisms prevent undesirable impulses from entering consciousness.
5. Denial acts to keep information out of conscious awareness.
6. Rationalization involves explaining an unacceptable behavior or feeling in a logical manner, avoiding the true reasons for the behavior.

As earlier noted, type-trait theories are of interest primarily because of their descriptive powers, not because of the explanations they offer for the existence of personality traits. On the other hand, Freud's theory of personality is of interest primarily because it focuses on the processes involved in the expression and shaping of the human personality. Freud's theory, proposed in the early part of the twentieth century, has been highly influential, particularly among psychotherapists.

According to Freud, there are three parts to the human personality: the id, the ego, and the superego. The **id** is inborn, and it is present at birth. It is the

psychological expression of the biological drives such as hunger, thirst, the need for sleep, and so forth. The word id is derived from Latin, and means simply “it.” In other words, the “it” of the human personality is not uniquely individual. It is impersonal and roughly similar in all of us. The id is present in the infant, and Freud said it follows the pleasure principle, indicating that the id seeks relief from hunger, thirst, and other irritating states. Although the id is present at birth, it never departs. It is as much a part of the adult personality as the personality of the child.

The **ego** emerges with experience. It arises because of various **frustrations** and the need to cope with the world as it is, not as it is wished to be. The word ego is also derived from Latin, and means simply “I.” The ego, or the “I” of the personality, follows the reality principle, suggesting that the ego helps the individual tolerate frustration and devise ways around obstacles to gratification. The ego takes form around the age of two or three. Like the id, it too will become a part of the adult personality.

The **superego** emerges last. It reflects the influence of the family. The family is usually the agent that represents the values and norms of a larger culture to a growing child. This includes the family’s religious beliefs and its participation in the rules and laws of a given nation. If a child identifies with the family, the superego will be introjected, meaning that it will become an integral part of the individual’s personality.

Feelings of guilt arise when the demands of the superego are violated. This makes a reference to the conscience, one of the aspects of the superego. The conscience acts as a kind of inner police officer, guiding the individual in the direction of conforming to social expectations. The superego is relatively well established around the age of seven. Like the id and the ego, it is also a part of the adult personality.

Another aspect of the superego is the **ego ideal**, an image that sets forth what one should do with one’s life in terms of a vocation, family responsibilities, and long-term goals. The ego ideal, being a part of the superego, reflects the wishes of the parents. It should be noted that Freud’s concept of the ego ideal is not the same as

Maslow's concept of self-actualization. When one actualizes the ego ideal, one becomes what the parents wish for. When one actualizes the self, one becomes what one was meant to be. Of course, these two goals are not necessarily in conflict. But sometimes they are.

Of particular importance in Freud's personality theory is the concept of **ego defense mechanisms**. Ego defense mechanisms are involuntary mental acts designed to protect the ego from the "slings and arrows of outrageous fortune." In other words, they act as shields, protecting us from some of the emotional pain and damage that can arise from coping with life. In view of the fact that it is necessary to have a strong, functional ego in order to deal with reality, it is understandable that the ego tends to develop a protective system.

Seven of the ego defense mechanisms are denial of reality, repression, projection, identification, fantasy, rationalization, and reaction formation. Denial of reality takes place when the individual thinks, "This isn't so. This can't be happening." Examples include refusing to believe that the car is out of gas, that one has a serious illness, or that a cherished dream will never come true. Denial is a primitive mechanism, often used by toddlers and preschoolers.

Repression takes place when the ego pushes down unpleasant features of one's psychological world to an unconscious level. These typically consist of painful childhood memories and forbidden wishes associated with sexual and aggressive behavior. It is repression that defines the contents of the mind's unconscious domain. Projection takes place when the ego perceives in the outer world what is actually the reflection of the contents of the unconscious domain.

Identification takes place when the ego attaches itself to a person perceived to have a desirable attribute such as power, status, or unusual ability.

Fantasy takes place when the ego imagines successes or accomplishments that are not presently obtainable in actual day-to-day living. The kind of emotional gratification associated with fantasy is called vicarious gratification, meaning substitute gratification.

Rationalization takes place when the ego provides a rational-sounding reason for a failure or a transgression. A rationalization may have little or no basis in reality, and not be rational at all. However, its superficial logic is a balm to the threatened ego.

Reaction formation is characterized by converting a repressed wish into its psychological opposite at the conscious level.

The defense mechanisms overlap to some extent. For example, identification, as explained above, contains elements of fantasy.

II. Retell the text using the questions below as a plan.

1. What parts does the human personality comprise in accordance with Freud's theory?
2. What part of the human personality is inborn and present at birth according to Freud?
3. What principle does the ego follow?
4. What aspect of the superego reflects the wishes of the parents and associated with long-term goals?
5. What are ego defense mechanisms?
6. What mental process is involved when the ego pushes down unpleasant features to an unconscious level of one's mind?
7. When does identification take place?
8. What defensive mechanism takes place when unacceptable emotions and impulses are converted into the opposing tendency?

8.3. Other Psychodynamic Theories: Is There a Collective Unconscious Mind?

I. Skim the text so that you will get a general idea of it. Complete the summary using one word from the box below for each gap.

Freud's general approach to the study of personality is said to be psychodynamic. A psychodynamic theory assumes that the personality is a field of forces that are sometimes in opposition. For example, the energy of the id is often opposed to the energy of the superego. The id may say, "Go. Do it!" The superego may say, "Don't. That's not right." Also, as already indicated, the ego defense mechanism called repression populates the unconscious domain with forbidden wishes.

Freud's theory of personality is sweeping and addresses a broad spectrum of behavior. It was the first relatively modern theory of personality, and has had a great influence on most of the important theories generated during the twentieth century. Neo-Freudians are theorists who think along the lines of Freud's general tradition (neo means "new"). However, they may take issue with specific aspects of Freud's theory. Three eminent neo-Freudians are Carl Jung, Alfred Adler, and Karen Horney.

Carl Jung (1875–1961) was the one who proposed the introversion-extraversion dimension of personality. Jung was a Swiss psychiatrist, and in the early years of psychoanalysis was one of Freud's close associates. Jung agreed with Freud's concept of an unconscious domain, but asserted that Freud's way of looking at the unconscious aspects of the personality was limited. Jung theorized that there is a deeper unconscious layer than the one that Freud envisioned. Jung called this deeper layer the **collective unconscious**. According to Jung, the collective unconscious consists of the human race's stored experiences over the centuries. He called these stored experiences archetypes, meaning first, or early, patterns. **Archetypes** for human beings are similar to the concept of instincts in animals. Inborn, the archetypes determine and direct much of our behavior.

An example of an archetype is the Hero. If an individual tends to identify his or her ego with the Hero, then that person will tend to be courageous, have a spirit of adventure, be concerned for the welfare of unfortunate people, and so forth.

Another example of an archetype is the Martyr. If an individual tends to identify his or her ego with the Martyr, then that person will be self-sacrificing and self- punishing, and tend to seek opportunities for others to be abusive to them. It is

clear that in some cases identification with this archetype can have adverse consequences.

One of the important archetypes is the **Self**. If an individual tends to identify his or her or ego with the Self, then that person will take a life pathway of personal discovery. Life will have a sense of purpose or mission. If successful, toward the end of life the individual will feel fulfilled, complete. Jung called this process **self-realization**, and it anticipated Maslow's concept of self-actualization.

The notion of a collective unconscious mind is controversial. The belief that there can be inherited memories tends to be rejected by American psychology. Nonetheless, a number of personality theorists and psychotherapists have found it useful to think in terms of archetypes. Jung's concept of the collective unconscious mind is not dead in American psychology. However, it has been relegated to a borderline status.

Alfred Adler (1870–1937), like Jung, was one of Freud's early coworkers. Both Freud and Adler lived in Vienna. Adler was working as an ophthalmologist when he read Freud's The Interpretation of Dreams. Inspired by Freud's book, he contacted Freud, and became a psychoanalyst. Eventually Adler broke with Freud and followed his own theoretical inclinations.

One of the main causes of the break with Freud was Adler's insistence that the will to power is just as influential in psychological development as the sexual drive. The will to power is an inborn drive to become effective and competent. (Adler obtained the concept of the will to power from the teachings of the philosopher Friedrich Nietzsche.) If the will to power is frustrated, as it often is, this sets up the conditions for an inferiority complex. An **inferiority complex** is a group of related ideas that may or may not be realistic about the self. An inferiority complex tends to contribute to feelings of inadequacy, incompetence, depression, **anxiety**, and chronic anger.

In order to cope with an inferiority complex, the individual often uses an ego defense mechanism called **compensation**. Compensation, as defined by Adler, is the capacity of the personality to convert a psychological minus into a sort of plus.

Inferiority complexes tend to be specific. One can have an inferiority complex associated with mathematical ability, athletic capacity, social skills, musical talent, appearance, and so forth. It is possible to have more than one inferiority complex. It is important to realize that an inferiority complex does not mean that a person is inferior. It is a component of one's self-image. Inferiority complexes are, according to Adler, important features of the human personality.

Karen Horney (1885–1952) was trained in psychoanalysis in Germany, and was one of the principal founders of psychoanalysis in the United States. Although she accepted the broad general outlines of Freudian theory, she revised certain aspects of it. She believed that Freud had been much too literal in his presentation of the Oedipus complex. Her argument was that a child's wish to possess the parent of the opposite sex was psychological and emotional, not particularly sexual. In general, Horney replaced much of Freud's emphasis on the id and its biological foundations as central aspects of personality with an emphasis on the importance of learning and culture.

The overall impact of the theories of Jung, Adler, and Horney has been to enrich psychology's general understanding of important processes involved in the formation of the human personality.

complex	points	jealousy
layers	psychologists	superiority
unconscious	inferiority	archetypes
claiming	behaviors	personality
collective	drive	psychoanalytic

1. Neo-Freudian (1)_____ were thinkers who agreed with the basis of Freud's (2)_____ theory, but changed and adapted the theory to incorporate their own beliefs, ideas and theories.

2. Many of these thinkers agreed with Freud's concept of the (3)_____ mind and the importance of early childhood.

3. There were, however, a number of (4)_____ that other thinkers disagreed with or directly rejected. Because of this, these individuals went on to propose their own unique theories of (5)_____.

4. Like Freud, Jung believed that unconscious conflicts are important in shaping personality. However, he thought the unconscious has two (6)_____: the personal unconscious, which resembled Freud's idea, and the (7)_____ unconscious, which contains universal memories of the common human past.

5. Jung called these common memories (8)_____.

6. Another follower of Sigmund Freud, Alfred Adler, suggested that every person has a sense of (9) _____.

10. From childhood people work toward overcoming the inferiority (10)_____ and asserting their (11)_____ over others.

11. He believed that this (12)_____ was the motivating force behind human (13)_____, emotions and thoughts.

12. Karen Horney reworked the Freudian Oedipus complex of the sexual elements, (14)_____ that the clinging to one parent and (15)_____ of the other was simply the result of anxiety, caused by a disturbance in the parent-child relationship.

(adopted from books.google.ru/books?isbn=0471323624).

II. Study the text again and answer the questions. Prepare its summary using your answers.

1. What idea does a psychodynamic theory rest upon?
2. Who are Neo-Freudians?
3. What is collective unconscious?
4. What is archetype?
5. Which archetype can a courageous person identify his or her ego with?
6. What process is called self-realization?
7. Is Jung's concept of the collective unconscious mind highly influential nowadays?
8. What inborn drive is very important in psychological development according to Adler?

9. What term is used to denote a group of related ideas that may or may not be realistic about the self?

10. What is compensation?

After-reading tasks

I. Give Russian equivalents to the following words and expressions from the text.

To be familiar with; a workable definition; interpersonal attraction; stable behavioral dispositions; personality trait; sanguine personality; to be credited for smth; to trace back to; somatotype; a bipolar personality trait; ambivert; id; ego; to cope with smth; to tolerate frustration; to devise ways to gratification; to conform to social expectations; to set forth; long-term goal; reaction formation; denial of reality; a cherished dream; mind's unconscious domain; to relegate to a borderline status; inferiority complex; general outlines of one's theory; to overlap.

II. Give English equivalents to the following words and expressions from the text.

Личность; совокупность черт; физическая внешность; привлекательная личность; флегматик; экстраверт; преобладающая черта; тонкий наблюдатель; современное использование; интровертность; по чьему-либо собственному признанию; принцип удовольствия; принцип реальности; сверх-Я; неотъемлемая часть; защитные механизмы; болезненные детские воспоминания; архетип; коллективное бессознательное; неблагоприятные последствия.

III. Arrange the words in A and B in pairs of synonyms.

A) to predict; to react to; to exist; to display; to correspond to; to derive from; to cope with; to arise; to violate; to perceive; to attach to; to envision; to contribute to.

B) to overcome; to sense; to imagine; to respond to; to forecast; to be; to spring; to match; to show; to break; to attribute to; to emerge; to further.

A) trait; definition; constellation; attraction; basis; study; courage; sluggishness; value; support; admission; domain.

B) boldness; assistance; acknowledgement; foundation; research; explanation; sympathy; set; clumsiness; characteristic; worth; field.

A) stable; persistent; stingy; accurate; dominant; astute; assertive; placid; integral; adverse.

B) mean; keen; tranquil; negative; permanent; true; aggressive; essential; prevalent; insistent.

IV. Combine the words in column A with those in B to make word combinations. Make up your own sentences using them.

A	B
1. appealing	a) traits
2. contemporary	b) back
3. unconscious	c) personality
4. trace	d) drive
5. bipolar	e) forth
6. set	f) fingerprint
7. biological	g) domain
8. social	h) theory
9. take	i) expectations
10. psychological	j) place

V. Match the key terms with their definitions.

1. superego	a) the part of the personality which maintains a balance between our impulses and our conscience.
2. collective unconscious	b) the part of the personality that represents the conscience.

3. ego ideal	c) the content of the unconscious mind that's passed down from generation to generation in all humans.
4. id	d) psychological forces which prevent undesirable or inappropriate impulses from entering consciousness.
5. reality principle	e) desired behavior of the ego according to the superego.
6. defense mechanisms	f) the part of the personality which contains our primitive impulses such as anger, hunger, etc.
7. ego	g) frameworks within the collective unconscious which serve to organize our experience.
8. compensation	h) a process of engaging in activities intended to produce a feeling of superiority over others, in order to overcome feelings of inferiority.
9. archetype	i) a set of qualities that make a person distinct from another.
10. personality	j) the attempt by the ego to satisfy both the id and the superego while still considering the reality of the situation.

VI. Read the text below. Use the word given in capitals at the end of some of the lines to form a word that fits in the gap in the same line.

The individual is, of course, shaped by powerful forces. However, it is possible to shift the 1) _____ from a generally reactive process to a proactive one. A proactive behavioral process 2) _____ on the role played by consciousness in the acquisition of personality. The humanistic viewpoint recognizes that the individual can think, reflect, and decide. Abraham Maslow and Carl Rogers, two of the principal 3) _____ of the	EMPHASIZE FOCUS ADVOCATE

humanistic viewpoint, called attention to the idea that an adult does not have to be a pawn of fate, a plaything of genetic 4)_____ and childhood experiences. Instead, consciousness can be used as a self-shaping tool.	TENDENCY
Maslow 5)_____ that the process of self-actualization was to some extent under the control of one's will. A person can choose to take the kinds of actions that will help him or her to maximize 6) _____ and potential. Maslow 7)_____ that human beings have a great capacity for autonomy, the power to control and direct one's own life.	BELIEF TALENT ASSERT
Rogers 8) _____ an emphasis on the self-concept, the way in which one perceives one's own	PLACE
9) _____. The self-concept exists in contrast to the ideal self, the way one would like to be. If the self-concept and the ideal self are far apart, then a state of incongruence exists. Incongruence tends to 10) _____ depression and anxiety. Like Maslow, Rogers believed that the individual has some control over the status of the self. Rogers employed these concepts as important aspects of his approach to psychotherapy.	PERSON INDUCTION
The humanistic viewpoint attempts to put the 11) _____ in the psychological driver's seat. It asserts that a human being's personality doesn't just happen. The individual, to some extent, creates his or her own personality.	INDIVIDUALITY

VII. Complete the table with the correct form of the word.

Verb	Noun	Noun	Adjective
admire		anxiety	
	admission		consistent
discover		inferiority	
	criticism		integral
recognize		incompetence	
	identification		enthusiastic
violate		theory	
	expectation		collective
suggest		energy	
	introvert		talented

VIII. Translate the following sentences into Russian.

1. Personality is made up of the characteristic patterns of thoughts, feelings and behaviors that make a person unique. Personality arises from within the individual and remains fairly consistent throughout life.

2. There are a number of different theories about how personality develops. Different schools of thought in psychology influence many of these theories.

3. Type-trait theories are the early perspectives on personality. These theories suggested that there are a limited number of "personality types" which are related to biological influences.

4. One of the most famous type-trait theories was suggested by Swiss psychiatrist Carl Jung. He singled out two basic personality types such as introvert and extrovert.

5. Extroverts tend to enjoy human interactions and are generally enthusiastic, talkative, assertive, and gregarious. They take pleasure in activities that involve large social gatherings, such as parties, community activities, public demonstrations, and business or political groups. Introverts are people whose energy tends to expand

through reflection and dwindle during interaction. Introverts tend to be more reserved and less outspoken in large groups.

6. Ambiversion is a term used to describe people who fall more or less directly in the middle and exhibit tendencies of both groups. An ambivert is normally comfortable with groups and enjoys social interaction, but also relishes time alone and away from the crowd.

7. Jung believed that archetypes are models of people, behaviors or personalities. Jung suggested that the psyche was composed of three components: the ego, the personal unconscious and the collective unconscious.

8. According to Jung, the ego represents the conscious mind while the personal unconscious contains memories, including those that have been suppressed. The collective unconscious is a unique component in that Jung believed that this part of the psyche served as a form of psychological inheritance. It contains all of the knowledge and experiences we share as a species.

9. According to Freud's psychoanalytic theory of personality, there are three elements of personality--the id, the ego and the superego. The id is the only component of personality that is present from birth. This aspect of personality is entirely unconscious and includes of the instinctive and primitive behaviors. The ego is the component of personality that is responsible for dealing with reality. The superego is the aspect of personality that holds all of our internalized moral standards and ideals that we acquire from both parents and society-our sense of right and wrong.

10. Humanist theories emphasize the importance of free will and individual experience in the development of personality. Humanist theorists include Carl Rogers and Abraham Maslow.

IX. Summarize the key ideas of the text in English.

Какие черты личности влияют на продолжительность жизни?

Существуют ли психологические аспекты личности, по которым можно предсказать, как долго человек будет жить? Новейшие исследования проливают

свет на взаимосвязь определенных черт личности и долголетия. Одно из самых интригующих исследований было опубликовано в 2010 году (Говард Фридман, Маргарет Керн, Чандра Рейнольдс, Journal of Personality). Ученые наблюдали за группой лиц, начиная с возраста начальной школы (начало наблюдений 1921-1922 гг). Для исследования были выбраны люди с высоким интеллектом, а первоначально исследованиями занимался профессор Луи Терман. В молодом возрасте (средний возраст 29 лет) эти люди были исследованы с помощью различных тестов, которые были повторены еще раз в 1986 году. Данные об их продолжительности жизни собраны Фридманом и его коллегами в 2007 году.

Целью ученых было выяснить, есть ли психологические качества человека, по которым можно предсказать продолжительность жизни? Оказалось, что такие черты есть, при этом некоторые характеристики одинаковы для мужчин и женщин, а некоторые зависят от пола. Среди изученных аспектов личности были невротическое состояние (и связанные с ним печаль, гнев, тревога, сверхчувствительность, эмоциональная неустойчивость) и добросовестность, честность (ответственность, осторожность и т.д.). «Исследование показало, что люди, которые имеют нестабильное невротическое состояние (например, они тревожны, часто грустят и враждебно настроены к окружающим), чаще имеют проблемы со здоровьем, чем эмоционально стабильные люди. Однако часто бывает, что это их субъективная оценка собственного здоровья. Изучение же продолжительности жизни исключает вопрос о субъективности, — говорит Фридман. — Поэтому по невротическому состоянию человека можно предсказать низкую самооценку здоровья, меньшее ощущение счастья, но само по себе невротическое состояние человека такой сильной связи с долголетием не показало. То есть чувство тревоги, грусть в значительной степени не влияют на удлинение или сокращение продолжительности жизни людей».

Когда исследователи проанализировали результаты отдельно для мужчин и женщин, картина была несколько иная. Так, для женщин нестабильное невротическое состояние немного повышает риск смерти. Однако основной

вывод ученых для всей выборки: невротическое состояние может заставить нас волноваться о продолжительности жизни, но фактически оно не влияет на укорачивание жизни.

Что касается добросовестности и честности, то по этим качествам можно предсказать продолжительность жизни по всей выборке (мужчины и женщины вместе): чем более добросовестный человек, тем больше он или она живет. С чем это связано? Добросовестные люди более самостоятельны, дисциплинированы и послушны. Они склонны к ведению здорового образа жизни больше, чем другие: они чаще тренируются, правильно питаются, следуют советам врача. Когда женщины и мужчины были проанализированы отдельно, эффект был более выраженным и определенным для женщин.

Выводы исследования показывают, что определенные психологические аспекты личности, к примеру, добросовестность, могут повлиять на продолжительность жизни. Данные выводы имеют большое значение для тех, кто надеется жить дольше — ведь такие черты характера, как добросовестность и дисциплинированность, может развить и совершенствовать в себе каждый.

X. Make a presentation on PERSONALITY using all necessary vocabulary from the unit and your own knowledge of this theme.

QUIZ

For questions 1-9 choose the answer a-d which you think fits best according to the texts you studied:

1. A workable definition of personality is that it is
    a. the synchronicity of the id and the ego
    b. the sum of the archetypes of the collective unconscious
    c. the interaction of the ego ideal and the superego
    d. the constellation of traits unique to the individual
2. Which one of the following is *not* a personality type identified by Hippocrates?
    a. mesomorph

b. sanguine

c. choleric

d. melancholic

3. According to Jung, an extravert tends to favor which of the following behaviors?

a. meditating

b. daydreaming

c. exploration

d. spending time alone

4. According to Freud, what part of the personality follows the pleasure principle?

a. the ego

b. the id

c. the superego

d. the conscience

5. What ego defense mechanism is characterized by the ego pushing down unpleasant features of one's psychological world to an unconscious level?

a. projection

b. repression

c. fantasy

d. identification

6. According to Jung, the collective unconscious contains

a. personal repressed memories

b. the introjected superego

c. archetypes

d. the transcendental ego

7. According to Adler, if the will to power is frustrated, this sets up the conditions for

a. an inferiority complex

b. an Oedipus complex

c. a martyr complex

d. a perpetual youth complex

8. Defense mechanism used to convert a psychological minus into a sort of plus is called

a. projection

b. compensation

c. gratification

d. identification

9. Maslow believed that the process of self-actualization is to some extent under the control of one's will. He asserted that human beings have a great capacity for

a. expressing the curiosity drive

b. frustrating themselves

c. autonomy

d. letting the id control their lives

GLOSSARY

Term	Transcription	Definition
Aggressiveness	[ə'gresɪvnəs]	A feeling of hostility that arouses thoughts of attack.
Ambivert	[ˈambɪvəːt]	A person who is intermediate between an extrovert and an introvert.
Anxiety	[æŋ(g)'zaɪətɪ]	A strong and unpleasant feeling of nervousness or distress in response to a feared situation, often accompanied by physiological effects such as nausea, trembling, breathlessness, sweating, and rapid heartbeat.
Archetype	['ɑːkɪtaɪp]	In Jungian psychology, an inherited pattern of thought or symbolic imagery derived from the past collective experience and present in the individual unconscious.

Choleric	['kɔl(ə)rɪk]	Quickly aroused to anger.
Collective unconscious	[kə'lektɪv ʌn'kɔn(t)ʃəs]	According to Jung, the content of the unconscious mind that is passed down from generation to generation in all humans.
Compensation	[ˌkɔmpən'seɪʃ(ə)n]	Behavior that develops either consciously or unconsciously to offset a real or imagined deficiency, as in personality or physical ability.
Ego	['iːgəu]	The part of the personality which maintains a balance between our impulses (id) and our conscience (superego).
Ego defense mechanisms	['iːgəu dɪ'fens 'mekənɪz(ə)m]	Psychological forces which prevent undesirable or inappropriate impulses from entering consciousness.
Ego ideal	['iːgəu aɪ'dɪəl]	The ideal or desired behavior of the ego according to the superego.
Extrovert	['ekstrəvɜːt]	A person concerned more with external reality than inner feelings.
Frustration	[frʌs'treɪʃ(ə)n]	The feelings, thoughts, and behaviors associated with not achieving a particular goal or the belief that a goal has been prematurely interrupted.
Id	[ɪd]	The part of the personality which contains our primitive impulses such as sex, anger, and hunger.
Ideal self	[aɪ'dɪəl self]	Humanistic term representing the characteristics, behaviors, emotions, and thoughts to which a person aspires.
Inferiority	[ɪnˌfɪərɪ'ɔrətɪ	A disorder arising from the conflict between

complex	'kɔmpleks]	the desire to be noticed and the fear of being humiliated, characterized by aggressiveness or withdrawal into oneself.
Introvert	['ɪntrə(u)vɜːt]	A person who is more concerned with his own thoughts and feelings than with other people or happenings outside him.
Melancholic	[ˌmelən'kɔlɪk]	Experiencing or showing sorrow or unhappiness.
Personality	[ˌpɜːs(ə)'nælətɪ]	The stable set of individual characteristics that make us unique.
Phlegmatic	[fleg'mætɪk]	Having or suggesting a calm, sluggish temperament; unemotional.
Pleasure principle	['pleʒə 'prɪnsəpl]	Freud’s theory regarding the id’s desire to maximize pleasure and minimize pain in order to achieve immediate gratification.
Projection	[prə'ʤekʃ(ə)n]	The attribution of one's own attitudes, feelings, or desires to someone or something as a naive or unconscious defense against anxiety or guilt.
Rationalization	[ˌræʃ(ə)n(ə)laɪ'zeɪʃ(ə)n]	A defense mechanism where one believes or states an acceptable explanation for a behavior as opposed to the real explanation.
Reaction formation	[rɪ'ækʃ(ə)n fɔː'meɪʃ(ə)n]]	A defense mechanism where unacceptable impulses are converted to their opposite.
Reality principle	[rɪ'ælətɪ 'prɪnsəpl]	According the Freud, the attempt by the ego to satisfy both the id and the superego while still considering the reality of the situation.
Repression	[rɪ'preʃ(ə)n]	The defense mechanism whereby our

		thoughts are pulled out of our consciousness and into our unconscious.
Sanguine	['sæŋgwɪn]	Confidently optimistic and cheerful.
Self	[self]	Consists of a person's conscious and unconscious aspects, their personality, cognitions or thoughts and feelings. All these traits or aspects combine together into the person's core identity. Other synonyms for "self" are soul, ego, personality, or individual.
Self-abasement	[self -ə'beɪsmənt]	Degradation or humiliation of oneself, especially because of feelings of guilt or inferiority.
Self-concept	[self -'kɔnsept]	The subjective perception of the self.
Self-realization	[self-ˌrɪəlaɪ'zeɪʃ(ə)n]	The development or fulfillment of one's potential.
Superego	[ˌs(j)uːp(ə)r'iːgəu]	The part of the personality that represents the conscience.
Trait	[treɪ(t)]	A relatively permanent internal characteristic.

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